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NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS	3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS	4	AUG 13	CA/CAPplus enhanced with additional kind codes for granted patents
NEWS	5	AUG 20	CA/CAPplus enhanced with CAS indexing in pre-1907 records
NEWS	6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS	7	AUG 27	USPATOLD now available on STN
NEWS	8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS	9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS	10	SEP 13	FORIS renamed to SOFIS
NEWS	11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS	12	SEP 17	CA/CAPplus enhanced with printed CA page images from 1967-1998
NEWS	13	SEP 17	CAPplus coverage extended to include traditional medicine patents
NEWS	14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	15	OCT 02	CA/CAPplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS	16	OCT 19	BEILSTEIN updated with new compounds
NEWS	17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS	18	NOV 19	WPIX enhanced with XML display format
NEWS	19	NOV 30	ICSD reloaded with enhancements
NEWS	20	DEC 04	LINPADOCDB now available on STN
NEWS	21	DEC 14	BEILSTEIN pricing structure to change
NEWS	22	DEC 17	USPATOLD added to additional database clusters
NEWS	23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS	24	DEC 17	DGENE now includes more than 10 million sequences
NEWS	25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS	26	DEC 17	MEDLINE and LMEMLINE updated with 2008 MeSH vocabulary
NEWS	27	DEC 17	CA/CAPplus enhanced with new custom IPC display formats
NEWS	28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS	29	JAN 02	STN pricing information for 2008 now available
NEWS	30	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances
NEWS	31	JAN 28	USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats
NEWS	32	JAN 28	MARPAT searching enhanced
NEWS	33	JAN 28	USGENE now provides USPTO sequence data within 3 days of publication
NEWS	34	JAN 28	TOXCENTER enhanced with reloaded MEDLINE segment

NEWS 35 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements  
NEWS 36 FEB 08 STN Express, Version 8.3, now available

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,  
AND CURRENT DISCOVER FILE IS DATED 24 JANUARY 2008

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=> file caplus

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FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 07:51:25 ON 14 FEB 2008

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=> s odn

	3758 ODN
	1994 ODNS
L1	4525 ODN
	(ODN OR ODNS)

=> s target?

L2	573913 TARGET?
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=> s 11 (L) 12  
L3 1105 L1 (L) L2

=> d ibib abs

L3 ANSWER 1 OF 1105 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2008:176590 CAPLUS  
TITLE: Effect of antisense oligodeoxynucleotides targeting  
nuclear factor  $\kappa$ B on expression of caspase-3 in  
glomerulosclerosis  
AUTHOR(S): Li, Min; Ji, Ze-quan  
CORPORATE SOURCE: Department of Pediatrics, Second Hospital Affiliated  
to Guangzhou Medical College, Guangzhou, 510260, Peop.  
Rep. China  
SOURCE: Shiyong Erke Linchuang Zazhi (2007), 22(17), 1302-1304  
CODEN: SELZBJ; ISSN: 1003-515X  
PUBLISHER: Shinyong Erke Linchuang Zashi Bianjibu  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

AB Objective To investigate the effect of antisense oligodeoxynucleotides (ODN) targeting nuclear factor  $\kappa$ B (NF- $\kappa$ B) on the expressions of Caspase-3 and NF- $\kappa$ B in glomerulosclerosis. Methods Male SD rats were divided into 3 groups: sham operation (group A, n = 6), glomerulosclerosis (group B, n = 6), intervention (group C, n = 9). Group C was divided into 3 groups: sense ODN (group C1, n = 3), non-sense ODN (group C2, n = 3), antisense ODN (group C3, n = 3). Glomerulosclerosis models were made for SD rats by unilateral nephrectomy and being injected-with adriamycin into caudal vein. After 8 wk, various ODN applied to corresponding group for intervention. At the end of the 9th week, kidneys were taken out from all rats for the measurement of expressions of NF- $\kappa$ B p65 and Caspase-3 by immunohistochem. staining. Results After intervention, on the d7, the rats urine protein, glomerular sclerosis index (GI) and expressions of Caspase-3, NF- $\kappa$ B p65 in group C3 were significantly lower than those in group B, C1, C2 (P < 0.05). The expression of NF- $\kappa$ B p65 had no significant effect between group C3 and group A (P > 0.05). Conclusion Antisense ODN targeting NF- $\kappa$ B can inhibit the activities of NF- $\kappa$ B, Caspase-3 in rats kidneys and retard glomerulosclerosis and glomerular intrinsic cell apoptosis.

=> s conjugat? or link? or couple? or attach?  
246890 CONJUGAT?  
524967 LINK?  
449316 COUPLE?  
266831 ATTACH?  
L4 1407735 CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?

=> s 14 and 13  
L5 263 L4 AND L3

=> d ibib abs 1-2

L5 ANSWER 1 OF 263 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2008:61108 CAPLUS  
TITLE: Site-selective strand cleavage at methylated cytosine:  
regional effect of naphthoquinone chromophore on the  
one-electron photooxidation of 5-methylcytosine and  
positive charge transfer in DNA  
AUTHOR(S): Yamada, Hisatsugu; Tanabe, Kazuhito; Nishimoto,  
Sei-ichi

CORPORATE SOURCE: Department of Energy and Hydrocarbon Chemistry,  
Graduate School of Engineering, Kyoto University,  
Kyoto, 615-8510, Japan

SOURCE: Nucleic Acids Symposium Series (2007), (51), 219-220  
CODEN: NASSCJ; ISSN: 1746-8272  
URL: <http://nass.oxfordjournals.org/content/vol51/issue1/index.dtl>

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal; (online computer file)

LANGUAGE: English

AB Photoirradn. and subsequent hot piperidine treatment of the duplex consisting of 5-methylcytosine (mC)-containing DNA and 2-methyl-1,4-naphthoquinone (NQ)-tethered complementary ODN led to oxidative strand cleavage selectively at the mC site, when the NQ was arranged so as to be in close contact with the target mC. Well designed incorporation of NQ into an interior of ODN could suppress a competitive strand cleavage at consecutive guanines, which occurred as a result of pos. charge transfer. In contrast to the ODNs bearing NQ in an interior of the strand, photoirradn. of the duplex with an NQ tethered to a flexible methylene linker at the strand end resulted in not only strong strand cleavage at mC but also small amount of strand cleavage at the G doublet. Thus, optimization of the regional position of photosensitizing NQ could provide exclusive strand cleavage at mC without unfavorable cleavage at G.

L5 ANSWER 2 OF 263 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1438175 CAPLUS

TITLE: A comparative study of the antigen-specific immune response induced by co-delivery of CpG ODN and antigen using fusion molecules or biodegradable microparticles

AUTHOR(S): Zhang, Xue-Qing; Dahle, Christopher E.; Weiner, George J.; Salem, Aliasger K.

CORPORATE SOURCE: Division of Pharmaceutics, College of Pharmacy,  
University of Iowa, Iowa City, IA, 52242, USA

SOURCE: Journal of Pharmaceutical Sciences (2007), 96(12),  
3283-3292  
CODEN: JPMSAE; ISSN: 0022-3549

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB CpG ODN are toll-like receptor 9 (TLR9) agonists that can enhance antigen presentation by antigen presenting cells (APCs) such as dendritic cells (DCs). The most potent antigen-specific responses are seen when CpG ODN and the antigen are colocalized in the same APC. CpG ODN-antigen fusion mols. and biodegradable microparticles entrapping CpG ODN and antigen can ensure both components are delivered to the same APC. In this study, we compared the efficacy of the CpG-ODN fusion mols. against biodegradable microparticles entrapping antigen and CpG ODN. Microparticles were prepared using a double emulsion solvent evaporation methodol. CpG ODN-OVA fusion mols. were prepared by mixing maleimide-activated protein with thiolated CpG ODN. Both CpG ODN-OVA fusion mols. and microparticles co-entrapping CpG ODN and OVA generated stronger IgG2a and interferon-gamma (IFN- $\gamma$ ) responses than delivery of soluble CpG ODN and OVA. The microparticles generated stronger IgG2a and IFN- $\gamma$  immune responses than did CpG ODN-antigen fusion mols.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s (anticancer or anti-cancer) or chemothera? or antimetabolit?  
45914 ANTICANCER  
54 ANTICANCERS

45936 ANTICANCER  
       (ANTICANCER OR ANTICANCERS)  
 484323 ANTI  
       10 ANTIS  
 484330 ANTI  
       (ANTI OR ANTIS)  
 347367 CANCER  
       51096 CANCERS  
 360288 CANCER  
       (CANCER OR CANCERS)  
       7951 ANTI-CANCER  
       (ANTI(W)CANCER)  
 102244 CHEMOTHERA?  
       5199 ANTIMETABOLIT?  
 L6      148361 (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?

=> s 16 and 15  
 L7          22 L6 AND L5

=> d ibib 1-2

L7      ANSWER 1 OF 22      CAPLUS      COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER:          2007:724923      CAPLUS  
 DOCUMENT NUMBER:          147:263056  
 TITLE:                    Delivery of antisense oligonucleotides to nuclear  
                             telomere RNA by use of a complex between  
                             polysaccharide and polynucleotide  
 AUTHOR(S):                Minari, Jusaku; Kubo, Takanori; Ohba, Hideki; Shimada,  
                             Naohiko; Takeda, Yoich; Karinaga, Ryouji; Anada,  
                             Takahisa; Koumoto, Kazuya; Kawazu, Takeshi; Nagasaki,  
                             Takeshi; Shinkai, Seiji; Sakurai, Kazuo  
 CORPORATE SOURCE:          Department of Chemical Process and Environments, The  
                             University of Kitakyushu, 1-1 Hibikino, Wakamatsu-ku,  
                             Kitakyushu, 808-0135, Japan  
 SOURCE:                    Bulletin of the Chemical Society of Japan (2007),  
                             80(6), 1091-1098  
                             CODEN: BCSJA8; ISSN: 0009-2673  
 PUBLISHER:                Chemical Society of Japan  
 DOCUMENT TYPE:            Journal  
 LANGUAGE:                  English  
 REFERENCE COUNT:          41      THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS  
                             RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7      ANSWER 2 OF 22      CAPLUS      COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER:          2007:297893      CAPLUS  
 TITLE:                    Delivery of antisense DNA to nuclear telomere RNA by  
                             use of a natural polysaccharide of schizophyllan  
 AUTHOR(S):                Minari, Jusaku; Kubo, Takanori; Shimada, Naohiko;  
                             Takeda, Yoichi; Nagasaki, Takeshi; Shinkai, Seiji;  
                             Sakurai, Kazuo  
 CORPORATE SOURCE:          Department of Chemical Processes and Environments, The  
                             University of Kitakyushu, Kitakyushu, 808-0135, Japan  
 SOURCE:                    Abstracts of Papers, 233rd ACS National Meeting,  
                             Chicago, IL, United States, March 25-29, 2007 (2007),  
                             PMSE-346. American Chemical Society: Washington, D.  
                             C.  
                             CODEN: 69JAUY  
 DOCUMENT TYPE:            Conference; Meeting Abstract; (computer optical disk)  
 LANGUAGE:                  English

=> d ibib abs 1-2

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:724923 CAPLUS

DOCUMENT NUMBER: 147:263056

TITLE: Delivery of antisense oligonucleotides to nuclear telomere RNA by use of a complex between polysaccharide and polynucleotide

AUTHOR(S): Minari, Jusaku; Kubo, Takanori; Ohba, Hideki; Shimada, Naohiko; Takeda, Yoich; Karinaga, Ryouji; Anada, Takahisa; Koumoto, Kazuya; Kawazu, Takeshi; Nagasaki, Takeshi; Shinkai, Seiji; Sakurai, Kazuo

CORPORATE SOURCE: Department of Chemical Process and Environments, The University of Kitakyushu, 1-1 Hibikino, Wakamatsu-ku, Kitakyushu, 808-0135, Japan

SOURCE: Bulletin of the Chemical Society of Japan (2007), 80(6), 1091-1098

CODEN: BCSJA8; ISSN: 0009-2673

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Telomerase, which is highly activated in neoplastic cells, can be a target for antisense therapy, and for that purpose, antisense oligonucleotides (AS ODNs) have to be effectively delivered into cellular nucleus where the target telomerase is present. The present work shows a new strategy to deliver AS ODNs to nucleus by use of a novel complex made from a natural polysaccharide schizophyllan (SPG) and AS ODNs. Nuclear transport is strictly regulated by the nuclear pore size and the related proteins. If the mol. weight of SPG is decreased, the SPG/AS ODN complex should be easily transported, although the stability of the complex decreases with a decrease in the mol. weight. We optimized the mol. weight of SPG to be 25 K. Furthermore, we attached importin- $\beta$  (a nuclear transport protein) to the side chain of SPG by use of a streptavidin-biotin interaction. When this complex was added to Jurkat cells, the telomerase activity was more suppressed than the naked dose, indicating that the importin- $\beta$  in the complex induced the nuclear transport of the complexed AS ODN and the AS ODN inhibited the telomerase. The present work shows a new methodol. for nuclear anti-sense therapy that should be important in future anti-cancer therapies.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:297893 CAPLUS

TITLE: Delivery of antisense DNA to nuclear telomere RNA by use of a natural polysaccharide of schizophyllan

AUTHOR(S): Minari, Jusaku; Kubo, Takanori; Shimada, Naohiko; Takeda, Yoichi; Nagasaki, Takeshi; Shinkai, Seiji; Sakurai, Kazuo

CORPORATE SOURCE: Department of Chemical Processes and Environments, The University of Kitakyushu, Kitakyushu, 808-0135, Japan

SOURCE: Abstracts of Papers, 233rd ACS National Meeting, Chicago, IL, United States, March 25-29, 2007 (2007), PMSE-346. American Chemical Society: Washington, D. C.

CODEN: 69JAUJ

DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)

LANGUAGE: English

AB Telomerase that is highly activated in neoplastic cells can be a target for anti-cancer therapy. In this case, antisense oligonucleotides (ODNs) have to be effectively delivered into cellular nucleus, because the target telomerase

is present in nucleus. The present work shows a new strategy to deliver ODN to nucleus by use of novel complex made from a natural polysaccharide schizophyllan (SPG) and ODNs. Nuclear transport is strictly regulated by the nuclear pore size and related proteins. The smaller mol. weight has the better chance to be transported; however, the complex stability is decreased with decreasing the mol. weight. We optimized the suitable mol. weight to be 25K. Furthermore, we attached importin- $\beta$  to the side chain of SPG by use of a streptavidin-biotin interaction. When this complex was added to Jurkat cells, the telomerase activity was more suppressed than naked dose, indicating that the importin- $\beta$  in the complex induced the nuclear transport of the complexed ODN and inhibited the telomerase. The present work presents a new methodol. for nuclear anti-sense therapy that should be important in the future.

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=> s 17 not py>2003
      5330256 PY>2003
L8      9 L7 NOT PY>2003
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=> d ibib abs 1-9
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L8 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:528832 CAPLUS

DOCUMENT NUMBER: 140:228557

TITLE: Antisense oligonucleotides targeting XIAP induce apoptosis and enhance chemotherapeutic activity against human lung cancer cells in vitro and in vivo

AUTHOR(S): Hu, YanPing; Cherton-Horvat, Gabriele; Dragowska, Visia; Baird, Stephen; Korneluk, Robert G.; Durkin, Jon P.; Mayer, Lawrence D.; LaCasse, Eric C.

CORPORATE SOURCE: Department of Advanced Therapeutics, British Columbia Cancer Agency, Vancouver, BC, Can.

SOURCE: Clinical Cancer Research (2003), 9(7), 2826-2836  
CODEN: CCREF4; ISSN: 1078-0432

PUBLISHER: American Association for Cancer Research

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Activation of programmed cell death in cancer cells offers novel and potentially useful approaches to improving patient responses to conventional chemotherapy. X-linked inhibitor of apoptosis (XIAP), is the most potent member of the IAP gene family in terms of its ability to inhibit caspases and suppress apoptosis. In this study, the authors investigated the effect of XIAP down-regulation by antisense oligonucleotides (AS ODNs) on human non-small cell lung cancer (NIH-H460) growth in vitro and in vivo. In cultured H460 cells, G4 AS ODN was identified as the most potent compound. It down-regulated XIAP mRNA by 55% and protein levels  $\leq$  60% as determined by real-time quant. reverse transcription-PCR and Western blotting, resp., and induced 60% cell death. In contrast, the scrambled control ODN caused minimal XIAP loss and  $<$  10% cell death. Treatment with G4 AS ODN induced apoptosis as revealed by degradation of procaspase-3 and poly(ADP-ribose) polymerase proteins with significant nuclear DNA condensation and fragmentation. In addition, G4 AS ODNs sensitized H460 cells to the cytotoxic effects of doxorubicin, Taxol, vinorelbine, and etoposide. In animal models, administration of G4 AS ODN had significant sequence-specific inhibitory effects on H460 solid tumor establishment in a xenograft model. This antitumor activity was associated with an 85% down-regulation of XIAP protein in the tumors. In addition, the combination of 15 mg/kg G4 AS ODN with 5 mg/kg vinorelbine significantly delayed tumor establishment, more than either

agent alone. These studies support the contention that XIAP is a viable target for cancer therapy in human non-small cell lung cancer.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:271238 CAPLUS

DOCUMENT NUMBER: 139:332487

TITLE: Antisense Bcl-2 and HER-2 oligonucleotide treatment of breast cancer cells enhances their sensitivity to anticancer drugs

AUTHOR(S): Tanabe, Kazuaki; Kim, Ryungsa; Inoue, Hideki; Emi, Manabu; Uchida, Yoko; Toge, Tetsuya

CORPORATE SOURCE: Department of Surgical Oncology, Hiroshima University, Minami-ku, Hiroshima, 734-8553, Japan

SOURCE: International Journal of Oncology (2003), 22(4), 875-881

CODEN: IJONES; ISSN: 1019-6439

PUBLISHER: International Journal of Oncology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Over-expression of the HER-2 correlates with drug-resistance and a poor prognosis in breast cancer, however the mechanisms of HER-2-mediated drug resistance are unknown. We examined the effects of antisense Bcl-2 and HER-2 oligonucleotides (ODN) to assess the mechanism(s) through which down-regulation of Bcl-2 and HER-2 enhances drug-sensitivity. Using two human breast cancer cell lines, MDA-MB-231 and BT-474, the antitumor effects of a combination of antisense ODN and anticancer drugs, including mitomycin C (MMC), adriamycin (ADM), paclitaxel (TXL), and docetaxel (TXT) was evaluated. The expression of Bcl-2 protein was suppressed by treatment with antisense Bcl-2 ODN in a dose-dependent manner. An enhanced drug-sensitivity to MMC and TXL upon pre-treatment with antisense Bcl-2 ODN was observed, with the IC50 values increasing 1.9- and 2.0-fold, resp. Treatment of BT-474 cells with antisense HER-2 at 1.0  $\mu$ M suppressed HER-2 over-expression by 60.5%. Pre-treatment with antisense HER-2 ODN increased the sensitivity of these cells to ADM and TXL 20.8- and 10.8-fold, resp. In vivo expts. using a combination of antisense HER-2 and TXL showed the similar enhancement of antitumor effect of TXL as compared to that of antisense HER-2 or TXL alone ( $p=0.068$ ). Enhancement of drug-sensitivity was associated with the induction of apoptosis. Of interest, treatment with antisense HER-2 ODN also suppressed the expression of Bcl-2 and pAkt. These results indicate that down-regulation of Bcl-2 and HER-2 increased drug-sensitivity by modulating drug-induced apoptotic pathways in breast cancer cells, and that antisense ODN therapy, targeting Bcl-2 and HER-2 may be a useful strategy to enhance drug-sensitivity.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:521858 CAPLUS

DOCUMENT NUMBER: 133:246871

TITLE: Modulation of the typical multidrug resistance phenotype by targeting the MED-1 region of human MDR1 promoter

AUTHOR(S): Marthinet, E.; Divita, G.; Bernaud, J.; Rigal, D.; Baggetto, L. G.

CORPORATE SOURCE: IBCP - CNRS, Lyon, F-69367, Fr.

SOURCE: Gene Therapy (2000), 7(14), 1224-1233

CODEN: GETHEC; ISSN: 0969-7128

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal



LANGUAGE: English

AB Multidrug resistance of cancer (MDR) is the major cause of failure of chemotherapy. The typical MDR phenotype is due to the overexpression of membrane proteins among which the main representative is P-glycoprotein (Pgp) encoded by the MDR1 gene. Many attempts to modulate MDR by chemosensitizers have been unsuccessful in human therapy due to their intrinsic toxic effects. In an effort to modulate the MDR phenotype efficiently the authors designed an antisense and a transcriptional decoy strategy targeting the TATA-less human MDR1 gene promoter. The choice of the start point of transcription in a multiple start site window is related to an upstream MED-1 cis-element, the sequence and configuration of which are specific to human MDR1 gene expressed in Pgp-overproducing cancer cells. A 12mer antisense oligodeoxynucleotide (ODN) and a 12mer double-stranded ODN, both containing the MED-1 sequence, were designed and efficiently vectorized into the nucleus with the chimerical MPG peptide. A synthetic cellular model (NIH-EGFP) and highly resistant human CEM/VLB0.45 leukemia cells, significantly responded to transfection with the ODN/MPG complex. The level of EGFP fluorescence in NIH-EGFP cells decreased, and thus its production, and viability of CEM/VLB0.45 cells decreased by 63% in the presence of vinblastine, revealing that their resistance to the anticancer drug was reversed. These results open new insights into transcriptional decoy and anti-gene therapies of MDR cancers that overproduce Pgp.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:221493 CAPLUS

DOCUMENT NUMBER: 133:68331

TITLE: Modification of the plasma clearance and liver uptake of steroid ester-conjugated oligodeoxynucleotides by association with (lactosylated) low-density lipoprotein

AUTHOR(S): Rump, E. T.; de Vruhe, R. L. A.; Manoharan, M.; Waarlo, I. H. E.; van Veghel, R.; Biessen, E. A. L.; van Berkel, T. J. C.; Bijsterbosch, M. K.

CORPORATE SOURCE: Division of Biopharmaceutics, Leiden/Amsterdam Center for Drug Research, Leiden, 2300 RA, Neth.

SOURCE: Biochemical Pharmacology (2000), 59(11), 1407-1416  
CODEN: BCPA6; ISSN: 0006-2952

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Low-d. lipoprotein (LDL) has been proposed as carrier for the selective delivery of anticancer drugs to tumor cells. We reported earlier the association of several lipidic steroid-conjugated anticancer oligodeoxynucleotides (ODNs) with LDL. In the present study, we determined the stability of these complexes. When the complexes were incubated with a mixture of high-d. lipoprotein and albumin, or with rat plasma, the oleoyl steroid-conjugated ODNs appeared to be more stably associated with LDL than the cholesteryl-conjugated ODN. I.V. injected free lipid-ODNs were very rapidly cleared from the circulation of rats. The area under the curve (AUC) of the lipid-ODNs in plasma was  $<0.4 \mu\text{g} \cdot \text{min}/\text{mL}$ . After complexation with LDL, plasma clearance of the lipid-ODNs was delayed. This was most evident for ODN-5, the ODN conjugated with the oleoyl ester of lithocholic acid ( $\text{AUC} = 6.82 \pm 1.34 \mu\text{g} \cdot \text{min}/\text{mL}$ ). The AUC of ODN-4, a cholesteryl-conjugated ODN, was  $1.49 \pm 0.37 \mu\text{g} \cdot \text{min}/\text{mL}$ . In addition, the liver uptake of the LDL-complexed lipid-ODNs was reduced. The lipid-ODNs were also administered as a complex with lactosylated LDL, a modified LDL particle that is

selectively taken up by the liver. A high proportion of ODN-5 was transported to the liver along with lactosylated LDL (69.1±8.1% of the dose at 15 min after injection), whereas much less ODN-4 was transported (36.6±0.1% of the dose at 15 min after injection). We conclude that the oleoyl ester of lithocholic acid is a more potent lipid anchor than the other steroid lipid anchors. Because of the stable association, the oleoyl ester of lithocholic acid is an interesting candidate for tumor targeting of anticancer ODNs with lipoproteins.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:281800 CAPLUS

DOCUMENT NUMBER: 129:49299

TITLE: Abrogation of c-Raf expression induces apoptosis in tumor cells

AUTHOR(S): Lau, Quek Choon; Brusselbach, Sabine; Muller, Rolf

CORPORATE SOURCE: Institut fur Molekularbiologie und Tumorforschung (IMT), Philipps-Universitat Marburg, Marburg, D-35033, Germany

SOURCE: Oncogene (1998), 16(14), 1899-1902

CODEN: ONCNES; ISSN: 0950-9232

PUBLISHER: Stockton Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Signal transduction pathways involving the c-Raf protein kinase are frequently activated in tumor cells. We have addressed the relevance of this activation by a loss-of-function approach. An antisense phosphorothioate oligonucleotide (ODN) specifically targeted against c-raf mRNA (Monia et al., 1996a) was used to block c-Raf protein expression in four different cell lines derived from lung, cervical, prostate and colon carcinomas. Concomitant with the abrogation of c-Raf expression we observed the occurrence of classical apoptotic markers, including chromatin condensation, inter-nucleosomal DNA cleavage, annexin V binding and cleavage of PARP, which was followed by cell death, affecting most of the cell population. This induction of apoptosis occurred independent of the p53 status of the cell. These findings demonstrate that c-Raf can protect tumor cells from undergoing programmed cell death, and suggest that the interference with c-Raf expression or function by ODNs or specific drugs could represent a powerful means for improving the efficacy of anti-cancer therapy.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:71922 CAPLUS

DOCUMENT NUMBER: 128:212799

TITLE: c-myc antisense oligodeoxynucleotides enhance the efficacy of cisplatin in melanoma chemotherapy in vitro and in nude mice

AUTHOR(S): Citro, Gennaro; D'Agnano, Igea; Leonetti, Carlo;

Perini, Roberto; Bucci, Barbara; Zon, Gerald;

Calabretta, Bruno; Zupi, Gabriella

CORPORATE SOURCE: Laboratory of Experimental Chemotherapy, Regina Elena Cancer Institute, Rome, 00158, Italy

SOURCE: Cancer Research (1998), 58(2), 283-289

CODEN: CNREA8; ISSN: 0008-5472

PUBLISHER: American Association for Cancer Research

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This study was designed to assess the efficacy of a new antimelanoma therapeutic strategy that relies on the use of a c-myc antisense 15-mer phosphorothioate oligodeoxynucleotide ([S]ODN), in combination with cisplatin (cis-diamminedichloroplatinum; DDP), which is currently used in the clin. management of melanoma patients. Proliferation and colony formation of melanoma cells were both inhibited by the DDP/c-myc antisense [S]ODN combination to a greater extent than that observed with either agent alone. Inhibition was most effective when DDP was followed by c-myc antisense [S]ODNs. Cell cycle flow cytometric anal. of cells exposed to the two agents either alone or in combination demonstrated that (a) c-myc antisense [S]ODNs induced an accumulation of cells in S phase and apoptosis in a fraction of the cells, detectable at day 5 after the beginning of treatment; (b) DDP induced a block in G2-M phase detectable at day 1, which was partially recovered, and apoptosis similar in extent to that induced by c-myc antisense [S]ODNs; and (c) DDP and c-myc antisense [S]ODNs together induced arrest in G2-M phase, which was maximum at day 3, i.e., delayed as compared to the block induced by DDP. The combination induced a higher percentage of apoptosis, evident at day 3 from the start of treatment, that correlated with a marked reduction in Bcl-2 expression. Mice bearing human melanoma xenografts and treated sequentially with DDP and c-myc antisense [S]ODNs showed a higher inhibition of tumor growth, reduction in the number of lung metastases, and increase in life span compared with those treated with either agent alone. Together, these data lend support to the development of anticancer therapies involving oncogene-targeted antisense ODNs and conventional antineoplastic drugs.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:626490 CAPLUS

DOCUMENT NUMBER: 127:302975

TITLE: The synergistic cytotoxic effect of a doxorubicin immunoconjugate and bcl-2 antisense oligonucleotides on non-resistant and drug resistant small cell lung cancer cell lines

AUTHOR(S): Froesch, B. A.; Luedke, G. H.; Ziegler, A.; Stahel, R. A.; Zangemeister-Wittke, U.

CORPORATE SOURCE: Department of Internal Medicine, Division of Oncology, University Hospital, Zurich, CH-8044, Switz.

SOURCE: Tumor Targeting (1996), 2(5/6), 265-276  
CODEN: TUTAF9; ISSN: 1351-8488

PUBLISHER: Chapman & Hall

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Resistance to chemotherapy is a major cause for failure in the treatment of small cell lung cancer (SCLC) and is associated with genetic alternations affecting drug activity and the regulation of apoptosis. As an approach to more effective second-line treatment of SCLC, a combination of antisense-mediated downregulation of bcl-2 expression and targeted delivery of doxorubicin (DOX) using the epithelial glycoprotein-2 (EGP-2)-specific immunoconjugate MOC31-DOX was examined. As demonstrated on different SCLC cell lines, the cytotoxic effects of DOX and MOC31-DOX were comparable, but the immunoconjugate was more than 100-fold more specific for EGP-2-pos. tumor cells. Despite internalization via endocytosis, MOC31-DOX could not overcome chemoresistance mediated by P-glycoprotein. Treatment of cells with antisense oligodeoxynucleotides (AS-ODNs) complementary to the bcl-2 mRNA significantly reduced bcl-2 expression in a sequence-specific manner. In correlation with the basal bcl-2 expression levels of the cell lines, this treatment induced apoptosis in up to 90% of tumor cells. In

cell proliferation and colony-forming assays, the combination of bcl-2 antisense and MOC31-DOX resulted in a potent synergistic cytotoxic effect on all cell lines. This finding suggests the therapeutic use of bcl-2 AS-ODNs as an adjunct to tumor-targeted chemotherapy for the treatment of chemoresistant SCLC.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:83189 CAPLUS

DOCUMENT NUMBER: 126:112873

TITLE: Treatment of Philadelphia leukemia in severe combined immunodeficient mice by combination of cyclophosphamide and bcr/abl antisense oligodeoxynucleotides

AUTHOR(S): Skorski, Tomasz; Nieborowska-Skorska, M.; Wlodarski, P.; Perrotti, D.; Hoser, G.; Kawiak, J.; Majewski, M.; Christensen, L.; Iozzo, R. V.; Calabretta, Bruno

CORPORATE SOURCE: Department of Microbiology and Immunology, Kimmel Cancer Institute, Thomas Jefferson University, Philadelphia, PA, 19107, USA

SOURCE: Journal of the National Cancer Institute (1997), 89(2), 124-133

CODEN: JNCIEQ; ISSN: 0027-8874

PUBLISHER: National Cancer Institute

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Philadelphia cells are human chronic myelogenous leukemia (CML) cells that contain the BCR/ABL oncogene (a fusion of the BCR and ABL genes). Selective eradication of these cells in vitro can be achieved by combined treatment with antisense phosphorothioate oligodeoxynucleotides ([S]ODNs) specifically targeted to this oncogene (bcr/abl [S]ODNs) and a suboptimal (for use as a single agent) dose of mafosfamide (the in vitro active form of cyclophosphamide). We evaluated the ability of bcr/abl antisense [S]ODNs, alone or subsequent to treatment with a single injection of cyclophosphamide, to suppress the leukemic process induced in severe combined immunodeficient (SCID) mice by Philadelphia cells (i.e., primary CML-blast crisis [CML-BC] cells). In addition, we studied potential mechanisms that might explain the efficacy of the bcr/abl antisense [S]ODN-mafosfamide combination against Philadelphia cells in vitro. The effects of treating leukemic mice with cyclophosphamide (25 mg/kg body weight; 25% of the dose required to eradicate evidence of leukemia in SCID mice) and/or bcr/abl antisense [S]ODNs were assessed by anal. of survival, by examination of bone marrow for the presence of leukemia cells (using a colony formation assay or using coupled reverse transcription and the polymerase chain reaction to screen for bcr/abl mRNA), and by examination of a variety of tissues for the presence of infiltrating leukemia cells. The induction of apoptosis (a cell death program) in vitro in primary CML-BC cells following treatment with bcr/abl antisense [S]ODNs plus or minus prior treatment with mafosfamide was monitored by use of a com. assay. Relative cellular uptake of [S]ODNs by CML-BC cells treated in vitro with or without prior treatment with mafosfamide was determined by use of confocal microscopy and flow cytometry (for fluorescent [S]ODNs) or by use of blotting techniques that employed radioactively labeled probes (for extracted, unlabeled [S]ODNs). Levels of specific proteins in treated and untreated cells were determined by use of western blotting methods. Reported P values are two-sided. The disease process in leukemic mice was retarded substantially by combination treatment with cyclophosphamide and specific bcr/abl antisense [S]ODNs (relative to treatment with specific antisense [S]ODNs alone, cyclophosphamide alone, or cyclophosphamide plus nonspecific [i.e.,

control] antisense [S]ODNs); 50% of the mice treated with cyclophosphamide and specific antisense [S]ODNs appeared to be cured of leukemia. The combination treatment was associated with increased induction of apoptosis. In addition, cellular uptake of bcr/abl antisense [S]ODNs appeared to be increased twofold to sixfold by prior treatment with mafosfamide. This increased uptake of [S]ODNs was associated with enhanced suppression of p210bcr/abl protein levels. Combination therapy with antisense [S]ODNs targeted to specific oncogenes and less toxic doses of anticancer drugs may represent a rational strategy to pursue for the treatment of human leukemias.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:541127 CAPLUS

DOCUMENT NUMBER: 125:237570

TITLE: Antisense Sequence-Directed Crosslinking of DNA Oligonucleotides by Mitomycin C

AUTHOR(S): Maruenda, Helena; Tomasz, Maria

CORPORATE SOURCE: Hunter College, City University of New York, New York, NY, 10021, USA

SOURCE: Bioconjugate Chemistry (1996), 7(5), 541-544

CODEN: BCCHE\$; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oligodeoxyribonucleotides (ODNs) conjugated with mitomycin C (MC) via (-CH<sub>2</sub>-)<sub>n</sub> tethers of different lengths (n = 6, 12) to their terminal 5'-phosphate were synthesized, and their interaction with target complementary single-stranded DNA oligonucleotides was investigated. MC, a clin. used natural anticancer drug, is known to act as a bioreductive alkylating agent of duplex DNA with a remarkable preference for 5'-d(CG) sequences. The usual enzymic bioreductive techniques known to trigger MC to alkylate DNA were employed in the reaction between the MC-oligonucleotide conjugates and their targets radiolabeled by <sup>32</sup>P at their 5'-phosphate. A slow-moving radiolabeled product, detected by polyacrylamide gel electrophoresis using phosphorimaging techniques, was obtained in 15-25% yield with complementary DNA as target. Formation of these products was dependent upon complementary duplex formation. Evidence is presented that the DNA target is alkylated by the mitomycin C moiety of the ODN conjugate at the 2-amino group of a guanine base. These findings suggest that the MC-ODN conjugates may be useful specific inhibitors of cellular or viral gene expression. To our knowledge this is the first report on ODN conjugates of a reductively activated drug of known therapeutic value.

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION

FULL ESTIMATED COST

75.32	75.53
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION

CA SUBSCRIBER PRICE

-11.20	-11.20
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FILE 'PCTFULL' ENTERED AT 07:59:38 ON 14 FEB 2008

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FILE LAST UPDATED: 11 FEB 2008 <20080211/UP>  
MOST RECENT UPDATE WEEK: 200806 <200806/EW>  
FILE COVERS 1978 TO DATE

>>> IMAGES ARE AVAILABLE ONLINE AND FOR EMAIL-PRINTS <<<

>>> PREDEFINED PATENT FAMILY FORMATS CFAM AND FAM FROM THE INPADOCDB  
DATABASE NOW AVAILABLE <<<

=> s ODN conjugate  
1729 ODN  
708 ODNS  
1860 ODN  
(ODN OR ODNS)  
37893 CONJUGATE  
24631 CONJUGATES  
47305 CONJUGATE  
(CONJUGATE OR CONJUGATES)  
L9 25 ODN CONJUGATE  
(ODN(W) CONJUGATE)

=> d ibib 1-9

L9 ANSWER 1 OF 25 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2006023888 PCTFULL ED 20060403 EW 200609  
TITLE (ENGLISH): IMAGING CELLULAR NUCLEIC ACIDS  
TITLE (FRENCH): IMAGERIE D'ACIDES NUCLEIQUES CELLULAIRES  
INVENTOR(S): KIM, Young, Ro, 69 Newhall st. #4, Lynn, MA 01902, US;  
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LIU, Christina, Huang, 233 Mystic Valley Parkway,  
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ROSEN, Bruce, R., 194 Fallen Road, Lexington, MA 02173,  
US  
PATENT ASSIGNEE(S): THE GENERAL HOSPITAL CORPORATION, 55 Fruit Avenue,  
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AGENT: FASSE, J., Peter et al.\$, Fish & Richardson P.C., 225  
Franklin Street, Boston, MA 02110-2804; 02110-2804\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2006023888	A2	20060302

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU  
LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL  
PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA  
UG US UZ VC VN YU ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
LT LU LV MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2004-60603907 20040823

APPLICATION INFO.:

WO 2005-US29875 A 20050823

L9 ANSWER 2 OF 25 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2005103066 PCTFULL ED 20051108 EW 200544

TITLE (ENGLISH): METHOD FOR ATTACHING MOLECULAR PROBES TO A SOLID SUPPORT  
 TITLE (FRENCH): PROCEDE DE FIXATION DE SONDAS MOLECULAIRES SUR UN SUPPORT SOLIDE  
 INVENTOR(S): WRIGHT, Dennis, 10498 Fountain Lake Dr., Apt. 732, Stafford, TX 77477, US [US, US]  
 PATENT ASSIGNEE(S): BURZYNSKI, Stanislaw, R., 9432 Old Katy Road, Suite 200, Houston, TX 77055, US [US, US], for all designates States except US;  
 WRIGHT, Dennis, 10498 Fountain Lake Dr., Apt. 732, Stafford, TX 77477, US [US, US], for US only  
 AGENT: KAMMERER, Patricia, A.\$, Howrey Simon Arnold & White, LLP, 750 Bering Drive, Houston, TX 77057-2198\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2005103066	A1	20051103

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
 HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
 MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO  
 RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US  
 UZ VC VN YU ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2004-60/560,896 20040409

APPLICATION INFO.:

WO 2005-US9962 A 20050324

L9 ANSWER 3 OF 25

PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER:

2005076744 PCTFULL ED 20050829 EW 200534

TITLE (ENGLISH):

METHOD FOR THE PREPARATION OF PEPTIDE-OLIGONUCLEOTIDE CONJUGATES

TITLE (FRENCH):

PROCEDE DE PREPARATION DE CONJUGUES  
 PEPTIDES/OLIGONUCLEOTIDES

INVENTOR(S):

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 Kiriat-Ono, IL [IL, IL], for US only;  
 ASHKENAZI, Boris, 6/5 Ha'amoraim Street, Rehovot 76549,  
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 FRIDLAND, Dmitri, 5/4 King Hezkia Street, 77497 Ashdod,  
 IL [IL, IL], for US only  
 AGENT: WEBB, Cynthia\$, Webb & Associates, P.O. Box 2189, 76121  
 Rehovot\$, IL  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2005076744	A2	20050825

DESIGNATED STATES  
 W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
 HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
 MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO  
 RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ  
 VC VN YU ZA ZM ZW  
 RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU MC NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 PRIORITY INFO.: US 2004-60/545,173 20040218  
 APPLICATION INFO.: WO 2005-IL204 A 20050217

L9 ANSWER 4 OF 25 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2005012575 PCTFULL ED 20050215 EW 200506  
 TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATED TO THE USE OF  
 SEQUENCE-SPECIFIC ENDONUCLEASES FOR ANALYZING NUCLEIC  
 ACIDS UNDER NON-CLEAVING CONDITIONS  
 TITLE (FRENCH): PROCEDES ET COMPOSITIONS LIES A L'UTILISATION  
 D'ENDONUCLEASES SPECIFIQUES D'UNE SEQUENCE POUR  
 ANALYSER DES ACIDES NUCLEIQUES DANS DES CONDITIONS DE  
 NON-CLIVAGE  
 INVENTOR(S): NEELY, Lori, 44 Chester Street, Somerville, MA 02144,  
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 01950, US [US, US]  
 PATENT ASSIGNEE(S): U.S. GENOMICS, INC., 12 Gill Street, Woburn, MA 01801,  
 US [US, US], for all designates States except US;  
 NEELY, Lori, 44 Chester Street, Somerville, MA 02144,  
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 HACKETT, Maria, 16 Tyng Street, Unit E, Newburyport, MA  
 01950, US [US, US], for US only  
 AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C.,  
 600 Atlantic Avenue, Boston, MA 02210\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:



	NUMBER	KIND	DATE
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	WO 2005012575	A1	20050210
DESIGNATED STATES			
W:	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW		
RW (ARIPO):	BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
PRIORITY INFO.:	US 2003-60/492,143 20030801		
APPLICATION INFO.:	WO 2004-US23841 A 20040723		

L9 ANSWER 5 OF 25 PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2004108840 PCTFULL ED 20041220 EW 200451

TITLE (ENGLISH): NUCLEOTHIDES FOR PREVENTION AND TREATMENT OF BACTERIAL AND FUNGAL PATHOLOGIES

TITLE (FRENCH): NUCLEOTIDES CONVENANT A LA PREVENTION ET AU TRAITEMENT DE PATHOLOGIES BACTERIENNES ET FONGIQUES

INVENTOR(S): CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US [CN, US];  
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CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US [CN, US], for US only;  
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LANGUAGE OF FILING: English

LANGUAGE OF PUBL.: English

DOCUMENT TYPE: Patent

PATENT INFORMATION:

	NUMBER	KIND	DATE
	-----		
	WO 2004108840	A2	20041216
DESIGNATED STATES			
W:	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW		
RW (ARIPO):	BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
PRIORITY INFO.:	US 2003-10/453,410 20030603 US 2003-10/743,956 20031223 US 2004-10/818,158 20040405		
APPLICATION INFO.:	WO 2004-US17331 A 20040603		

L9 ANSWER 6 OF 25 PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2004019978 PCTFULL ED 20040316 EW 200411  
 TITLE (ENGLISH): RECOMBINANT NUCLEIC ACID USEFUL FOR INDUCING PROTECTIVE  
 IMMUNE RESPONSE AGAINST ALLERGENS  
 TITLE (FRENCH): ACIDE NUCLEIQUE RECOMBINANT UTILE POUR INDUIRE UNE  
 REPONSE IMMUNITAIRE DE PROTECTION CONTRE DES ALLERGENES  
 INVENTOR(S): CHUA, Kaw Yan, Block F, #07-08, 107 Clementi Road, Kent  
 Vale, 129790 SINGAPORE, SG [AU, SG];  
 LIEW, Lip Nyin, PPM 371, Elopura, Sandakan, 90000  
 SABAH, MY [MY, SG]  
 PATENT ASSIGNEE(S): NATIONAL UNIVERSITY OF SINGAPORE, 10 Kent Ridge  
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 LIEW, Lip Nyin, PPM 371, Elopura, Sandakan, 90000  
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 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2004019978	A1	20040311

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
 IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
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 SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU  
 ZA ZM ZW

RW (ARIPO):

GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU  
 MC NL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2002-60/406,659 20020829

APPLICATION INFO.:

WO 2003-SG205 A 20030829

L9 ANSWER 7 OF 25

PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2003078450 PCTFULL ED 20031001 EW 200339

TITLE (ENGLISH): NEGATIVELY CHARGED MINOR GROOVE BINDERS

TITLE (FRENCH): LIANTS DU PETIT SILLON A CHARGE NEGATIVE

INVENTOR(S): LUKHTANOV, Eugeny, A., 817 205th St. SE, Bothell, WA  
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LOKHOV, Sergey, G., 13215 NE 123rd Street, #312,

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LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER KIND DATE

WO 2003078450 A2 20030925

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE  
SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU  
MC NL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2002-60/363,602 20020311

APPLICATION INFO.: WO 2003-US7467 A 20030311

L9 ANSWER 8 OF 25

PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2002101095 PCTFULL ED 20030102 EW 200251

TITLE (ENGLISH): METHODS AND PRODUCTS FOR ANALYZING NUCLEIC ACIDS USING  
NICK TRANSLATION

TITLE (FRENCH): PROCEDES ET PRODUITS PERMETTANT D'ANALYSER DES ACIDES  
NUCLEIQUES AU MOYEN DE LA TRANSLATION DE COUPURE

INVENTOR(S): WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445,  
US [US]

PATENT ASSIGNEE(S): U.S. GENOMICS, INC., 6H Gill Street, Woburn, MA 01801,  
US [US, US];

WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445,  
US [US]

AGENT: LOCKHART, Helen, C.\$, Wolf, Greenfield & Sacks, P.C.,  
600 Atlantic Avenue, Boston, MA 02210\$, US

LANGUAGE OF FILING: English

LANGUAGE OF PUBL.: English

DOCUMENT TYPE: Patent

PATENT INFORMATION:

NUMBER KIND DATE

WO 2002101095 A1 20021219

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI  
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2001-60/297,080 20010608

APPLICATION INFO.: WO 2002-US18122 A 20020610

L9 ANSWER 9 OF 25

PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2002099141 PCTFULL ED 20021218 EW 200250

TITLE (ENGLISH): FLUORESCENT QUENCHING DETECTION REAGENTS AND METHODS

TITLE (FRENCH): REACTIFS ET METHODES DE DETECTION D'EXTINCTION DE  
FLUORESCENCE

INVENTOR(S): REED, Michael, W., 3575 NE 180th Street, Seattle, WA 98155, US [US, US];  
 LUKHTANOV, Eugeny, Alexander, 817 205th Street SE, Bothell, WA 98012, US [RU, US];  
 GALL, Alexander, A., 19701 10th Drive SE, Bothell, WA 98012, US [RU, US];  
 DEMPCY, Robert, O., 11421 NE 115th Court, Kirkland, WA 98033, US [US, US];  
 VERMEULEN, Nicolaas, M., J., 19334 196th Avenue NE, Woodinville, WA 98072, US [US, US]

PATENT ASSIGNEE(S): EPOCH BIOSCIENCES, INC., 21720 23rd Drive SE, #150, Bothell, WA 98021, US [US, US], for all designates States except US;  
 REED, Michael, W., 3575 NE 180th Street, Seattle, WA 98155, US [US, US], for US only;  
 LUKHTANOV, Eugeny, Alexander, 817 205th Street SE, Bothell, WA 98012, US [RU, US], for US only;  
 GALL, Alexander, A., 19701 10th Drive SE, Bothell, WA 98012, US [RU, US], for US only;  
 DEMPCY, Robert, O., 11421 NE 115th Court, Kirkland, WA 98033, US [US, US], for US only;  
 VERMEULEN, Nicolaas, M., J., 19334 196th Avenue NE, Woodinville, WA 98072, US [US, US], for US only

AGENT: PARKER, David, W.\$, Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092\$, US

LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 2002099141	A1	20021212
DESIGNATED STATES			
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW		
RW (ARIPO):	GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
PRIORITY INFO.:	US 2001-09/876,830		20010606
	US 2002-10/113,445		20020329
APPLICATION INFO.:	WO 2002-US17787	A	20020605

=> s conjugat? or link? or couple? or attach?

91774 CONJUGAT?

367746 LINK?

353083 COUPLE?

453499 ATTACH?

L10 772570 CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?

=> s (anticancer or anti-cancer) or chemothera? or antimetabolit?

17387 ANTICANCER

12 ANTICANCERS

17392 ANTICANCER

(ANTICANCER OR ANTICANCERS)

214369 ANTI

206 ANTIS  
 214412 ANTI  
     (ANTI OR ANTIS)  
 90969 CANCER  
 35425 CANCERS  
 93706 CANCER  
     (CANCER OR CANCERS)  
 15042 ANTI-CANCER  
     (ANTI(W)CANCER)  
 38415 CHEMOTHERA?  
 10064 ANTIMETABOLIT?  
 L11 52876 (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?

=> d his

(FILE 'HOME' ENTERED AT 07:50:59 ON 14 FEB 2008)

FILE 'CAPLUS' ENTERED AT 07:51:25 ON 14 FEB 2008

L1 4525 S ODN  
 L2 573913 S TARGET?  
 L3 1105 S L1 (L) L2  
 L4 1407735 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?  
 L5 263 S L4 AND L3  
 L6 148361 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?  
 L7 22 S L6 AND L5  
 L8 9 S L7 NOT PY>2003

FILE 'PCTFULL' ENTERED AT 07:59:38 ON 14 FEB 2008

L9 25 S ODN CONJUGATE  
 L10 772570 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?  
 L11 52876 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?

=> s l11 and l9

L12 8 L11 AND L9

=> d ibib abs 1-8

L12 ANSWER 1 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2006023888 PCTFULL ED 20060403 EW 200609  
 TITLE (ENGLISH): IMAGING CELLULAR NUCLEIC ACIDS  
 TITLE (FRENCH): IMAGERIE D'ACIDES NUCLEIQUES CELLULAIRES  
 INVENTOR(S): KIM, Young, Ro, 69 Newhall st. #4, Lynn, MA 01902, US;  
 LIU, Philip, Kuocherng, 233 Mystic Valley Parkway,  
 Winchester, MA 01890, US;  
 LIU, Christina, Huang, 233 Mystic Valley Parkway,  
 Winchester, MA 01890, US;  
 ROSEN, Bruce, R., 194 Fallen Road, Lexington, MA 02173,  
 US  
 PATENT ASSIGNEE(S): THE GENERAL HOSPITAL CORPORATION, 55 Fruit Avenue,  
 Boston, MA 02114, US  
 AGENT: FASSE, J., Peter et al.\$, Fish & Richardson P.C., 225  
 Franklin Street, Boston, MA 02110-2804; 02110-2804\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:  

NUMBER	KIND	DATE
-----		
WO 2006023888	A2	20060302

 DESIGNATED STATES  
 W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR

HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU  
 LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL  
 PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA  
 UG US UZ VC VN YU ZA ZM ZW  
 RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU LV MC NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 PRIORITY INFO.: US 2004-60603907 20040823  
 APPLICATION INFO.: WO 2005-US29875 A 20050823  
 ABEN A reporter conjugate for non-invasive imaging of gene expression in vivo  
 is disclosed. The conjugate includes a targeting nucleic acid linked to  
 a contrast agent, such as a paramagnetic label that can be used with  
 magnetic resonance imaging (MRI). The targeting nucleic acid can be an  
 anti-sense strand that hybridizes to a portion of a messenger RNA  
 encoded by the gene whose expression is to be imaged. In some  
 embodiments, the contrast agent is a chelated metal such as gadolinium  
 or dysprosium. The invention also features methods to image gene  
 expression in various tissues, including the brain.  
 ABFR L'invention concerne un conjugué rapporteur destiné à l'imagerie non  
 invasive de l'expression génique in vivo. Le conjugué comporte un acide  
 nucléique de ciblage lié à un agent de contraste, par exemple une  
 étiquette paramagnétique que l'on peut utiliser avec l'imagerie par  
 résonance magnétique (IRM). L'acide nucléique de ciblage peut être un  
 brin antisens qui s'hybride en une partie d'un ARN messager codé par le  
 gène dont l'expression doit être imagée. Dans certains modes de  
 réalisation, l'agent de contraste est un métal chélaté tel que le  
 gadolinium ou le dysprosium. L'invention concerne également des procédés  
 permettant d'imager une expression génique dans différents tissus, y  
 compris le cerveau.  
 L12 ANSWER 2 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2005076744 PCTFULL ED 20050829 EW 200534  
 TITLE (ENGLISH): METHOD FOR THE PREPARATION OF PEPTIDE-OLIGONUCLEOTIDE  
 CONJUGATES  
 TITLE (FRENCH): PROCÉDE DE PRÉPARATION DE CONJUGUÉS  
 PEPTIDES/OLIGONUCLEOTIDES  
 INVENTOR(S): KATZHENDLER, Jehoshua, 68 Hapalmach Street, 92583  
 Jerusalem, IL [IL, IL];  
 KLAUZNER, Yakir, 22 Burla Street, 93714 Jerusalem, IL  
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 [IL, IL];  
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 Kiriat-Ono, IL [IL, IL];  
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 IL [IL, IL];  
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 IL [IL, IL]  
 PATENT ASSIGNEE(S): FRUTAROM LTD., 25 Hashaish Street, 26110 Haifa, IL [IL,  
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[IL, IL], for US only;  
MIZHIRITSKII, Michael, 15/7 Haroeh Street, 76209  
Rehovot, IL [IL, IL], for US only;  
SHPERNAT, Yaacov, 2 Hachavatzelet Street, 55454  
Kiriati-Ono, IL [IL, IL], for US only;  
ASHKENAZI, Boris, 6/5 Ha'amoraim Street, Rehovot 76549,  
IL [IL, IL], for US only;  
FRIDLAND, Dmitri, 5/4 King Hezkia Street, 77497 Ashdod,  
IL [IL, IL], for US only  
AGENT: WEBB, Cynthia\$, Webb & Associates, P.O. Box 2189, 76121  
Rehovot\$, IL

LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2005076744	A2	20050825

DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO  
RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ  
VC VN YU ZA ZM ZW

RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
LT LU MC NL PL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2004-60/545,173 20040218

APPLICATION INFO.: WO 2005-IL204 A 20050217

ABEN The present invention relates to the synthesis of peptide-  
oligonucleotide conjugates (POC). More specifically, the invention  
relates to a novel method for the preparation of peptide-oligonucleotide  
conjugates, which can be conducted under mild conditions on solid  
support, can be performed manually or by a synthesizer, can be used to  
synthesize alternating sequences of peptides and oligonucleotides, and  
is applicable to the synthesis of a wide variety of peptide-  
oligonucleotide conjugates constructed from alternate peptide and  
oligonucleotide blocks.

ABFR La presente invention a trait a la synthese de conjugues  
peptides/oligonucleotides. De maniere plus specifique, l'invention a  
trait a un nouveau procede pour la preparation de conjugues  
peptides/oligonucleotides, qui peut etre realise dans des conditions  
temperees sur un support solide, pouvant etre effectuee manuellement ou  
par un synthetiseur, pouvant etre utilise pour la synthese de sequences  
alternees de peptides et d'oligonucleotides, et applicable a la synthese  
d'une grande variete de conjugues peptides/oligonucleotides construits a  
partir de blocs alternes de peptides et d'oligonucleotides.

L12 ANSWER 3 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2004108840 PCTFULL ED 20041220 EW 200451  
TITLE (ENGLISH): NUCLEOTIDES FOR PREVENTION AND TREATMENT OF BACTERIAL  
AND FUNGAL PATHOLOGIES  
TITLE (FRENCH): NUCLEOTIDES CONVENANT A LA PREVENTION ET AU TRAITEMENT  
DE PATHOLOGIES BACTERIENNES ET FONGIQUES  
INVENTOR(S): CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US  
[CN, US];  
TAN, Xing, Xin, 3410 Rose Water Drive, Manvel, TX  
77578, US [CN, US]

PATENT ASSIGNEE(S): CYTOGENIX, INC., 3100 Wilcrest, Suite 140, Houston, TX 77042, US [US, US], for all designates States except US;  
 CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US [CN, US], for US only;  
 TAN, Xing, Xin, 3410 Rose Water Drive, Manvel, TX 77578, US [CN, US], for US only  
 AGENT: WISNER, Mark, R.\$, Wisner & Associates, 1177 West Loop South, Suite 400, Houston, TX 77027-9012\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2004108840	A2	20041216

DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2003-10/453,410 20030603  
 US 2003-10/743,956 20031223  
 US 2004-10/818,158 20040405  
 APPLICATION INFO.: WO 2004-US17331 A 20040603

ABEN A selectively inducible, single-stranded DNA (ssDNA) expression library, a method for constructing a ssDNA expression library, a method for screening ssDNA using the expression library, and a method for identifying ssDNA molecules that alter expression of bacterial and fungal gene(s) related to cell growth and toxin production and secretion. The screening library is used to, among other things, identify ODNs effective in stopping cell growth, killing bacteria or fungi, or preventing bacteria and/or fungi from synthesizing and secreting their toxins, and/or to discover ODNs effective in eukaryotic (e.g., mammalian) cells for targeted alteration of gene function. The library is also useful for identifying ssDNAs or ODNs that are used as therapeutic agents for, for instance, providing a method for treatment of bacterial infections such as sepsis.

ABFR La presente invention concerne une echantillotheque d'expression d'ADN mono-brin, capable d'induction selective, un procede permettant la construction d'une echantillotheque d'ADN mono-brin, un procede permettant une recherche systematique d'ADN mono-brin au moyen de l'echantillotheque d'expression, et un procede permettant d'identifier des molecules d'ADN mono-brin modifiant l'expression de genes bacteriens et fongiques en relation avec la croissance des cellules et la production et secretion de



toxines. L'echantillotheque de recherche systematique sert, notamment, a identifier des oligonucleotides capables d'arreter la croissance cellulaire, de tuer des bacteries ou des champignons, ou d'empêcher des bacteries et/ou des champignons de synthetiser et de secreter leurs toxines, mais aussi a decouvrir des oligonucleotides ayant pour fonction, dans des cellules eucaryotes telles que celles de mammiferes de produire une modification ciblée d'une fonction genique. L'echantillotheque convient egalement a l'identification d'ADN mono-brins ou d'oligonucleotides servant d'agents therapeutiques, notamment pour l'etablissement d'un procede convenant au traitement d'infections bacteriennes telles que la sepsie.

L12 ANSWER 4 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2002101095 PCTFULL ED 20030102 EW 200251  
 TITLE (ENGLISH): METHODS AND PRODUCTS FOR ANALYZING NUCLEIC ACIDS USING NICK TRANSLATION  
 TITLE (FRENCH): PROCEDES ET PRODUITS PERMETTANT D'ANALYSER DES ACIDES NUCLEIQUES AU MOYEN DE LA TRANSLATION DE COUPURE  
 INVENTOR(S): WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445, US [US]  
 PATENT ASSIGNEE(S): U.S. GENOMICS, INC., 6H Gill Street, Woburn, MA 01801, US [US, US];  
 WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445, US [US]  
 AGENT: LOCKHART, Helen, C.\$, Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002101095	A1	20021219

# DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2001-60/297,080 20010608  
 APPLICATION INFO.: WO 2002-US18122 A 20020610

ABEN The invention relates to methods, products and systems for analyzing nucleic acid molecules using sequence specific nick translation. The methods can be used to obtain sequence information about the nucleic acid molecules and to assess the efficacy of therapeutic treatments that affect based on DNA damage induction.

ABFR La presente invention concerne des procedes, des produits et des systemes permettant d'analyser des molecules d'acide nucleique au moyen d'une translation de coupure specifique de sequence. Les procedes de l'invention peuvent etre utilises pour obtenir des informations de sequence concernant des molecules d'acide nucleique et pour evaluer l'efficacite de traitement therapeutiques dont l'effet repose sur l'induction de dommages a l'ADN

L12 ANSWER 5 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2002010201 PCTFULL ED 20020814  
 TITLE (ENGLISH): PEPTIDE-MEDIATED DELIVERY OF MOLECULES INTO CELLS  
 TITLE (FRENCH): ADMINISTRATION DE MOLECULES DANS DES CELLULES PAR  
 MEDIATION PEPTIDIQUE  
 INVENTOR(S): DIVIDA, Gilles;  
 MORRIS, May;  
 MERY, Jean;  
 HEITZ, Frederic;  
 FERNANDEZ, Joseph;  
 ARCHDEACON, John;  
 HORNDORP, Kyle  
 PATENT ASSIGNEE(S): ACTIVE MOTIF;  
 CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE;  
 DIVIDA, Gilles;  
 MORRIS, May;  
 MERY, Jean;  
 HEITZ, Frederic;  
 FERNANDEZ, Joseph;  
 ARCHDEACON, John;  
 HORNDORP, Kyle  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002010201	A2	20020207

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
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 MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL  
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 MZ SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE  
 CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR BF  
 BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2000-60/221,932 20000731  
 APPLICATION INFO.: WO 2001-US23406 A 20010726  
 ABEN  
 ABFR

L12 ANSWER 6 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2000020039 PCTFULL ED 20020515  
 TITLE (ENGLISH): METHODS AND ADJUVANTS FOR STIMULATING MUCOSAL IMMUNITY  
 TITLE (FRENCH): PROCEDES ET ADJUVANTS STIMULANT L'IMMUNITE DES  
 MUQUEUSES  
 INVENTOR(S): RAZ, Eyal;  
 HORNER, Anthony, A.;  
 CARSON, Dennis, A.  
 PATENT ASSIGNEE(S): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2000020039	A1	20000413

DESIGNATED STATES

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AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
 DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE  
 KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO  
 NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ  
 VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY  
 KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE

IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE  
SN TD TG

PRIORITY INFO.: US 1998-09/167,039 19981005

APPLICATION INFO.: WO 1999-US21203 A 19990915

ABEN The invention relates to methods for inducing mucosal immunity to an antigen and provides oligonucleotide adjuvants effective in stimulating such immunity against antigens. The adjuvants provided by the invention have little toxicity, are relatively simple to manufacture as compared to cholera toxin and other mucosal adjuvants, and possess the additional advantages of biasing the host immune response toward the Th1 phenotype.

ABFR L'invention concerne des procedes permettant d'induire une immunité des muqueuses a un antigene. L'invention a aussi pour objet des adjuvants d'oligonucleotides permettant de stimuler avec efficacite cette immunité contre les antigenes. Les adjuvants selon l'invention presentent une faible toxicite, sont relativement simples a fabriquer par rapport a la toxine du cholera et d'autres adjuvants des muqueuses, et ont l'avantage de polariser la reponse immunitaire de l'hôte vers le phenotype Th1.

L12 ANSWER 7 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2000012523 PCTFULL ED 20020515

TITLE (ENGLISH): DIAZIRIDINYL-ARYL AND BIS-[DI(CHLOROETHYL)AMINO]-ARYL OLIGONUCLEOTIDE CONJUGATES AND REAGENTS FOR MAKING THE SAME

TITLE (FRENCH): CONJUGUES OLIGONUCLEOTIDIQUES DE DIAZIRIDINYL-ARYLE ET DE BIS-[DI(CHLOROETHYL)AMINO]-ARYLE, ET REACTIFS POUR LEUR PREPARATION

INVENTOR(S): REED, Michael, W.;  
KUTYAVIN, Igor, V.;  
LUKHTANOV, Eugeny, A.;  
WALD, J., Ansel;  
MEYER, Rich, B., Jr.  
PATENT ASSIGNEE(S): EPOCH PHARMACEUTICALS, INC.

LANGUAGE OF PUBL.: English

DOCUMENT TYPE: Patent

PATENT INFORMATION:

NUMBER	KIND	DATE
-----		
WO 2000012523	A1	20000309

DESIGNATED STATES

W:

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE  
KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO  
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ  
VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG  
KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT  
LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN  
TD TG

PRIORITY INFO.: US 1998-09/136,779 19980826

APPLICATION INFO.: WO 1999-US19478 A 19990825

ABEN Diaziridinyl-aryl and bis-[di(chloroethyl)amino]-aryl oligonucleotide conjugates have a sequence that is complementary in the triplex forming sense to a target sequence in duplex nucleic acid. The diaziridinyl-aryl and bis-[di(chloroethyl)amino]-aryl oligonucleotide conjugates

effectively cross-link with both strands of the targeted duplex nucleic acid.

ABFR L'invention concerne des conjugues oligonucleotidiques de diaziridiny-aryl et de bis-[di(chloroethyl)amino]-aryl comportant une sequence complementaire, dans le sens de formation des triplex, d'une sequence cible d'acide nucleique bicatenaire. Les conjugues oligonucleotidiques de diaziridiny-aryl et de bis-[di(chloroethyl)amino]-aryl permettent la reticulation efficace des deux brins de l'acide nucleique bicatenaire cible.

L12 ANSWER 8 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2000002588 PCTFULL ED 20020515  
TITLE (ENGLISH): TARGETED SITE SPECIFIC DRUG DELIVERY COMPOSITIONS AND METHOD OF USE  
TITLE (FRENCH): COMPOSITIONS DESTINEES A L'ADMINISTRATION CIBLEE SPECIFIQUE DE SITE DE MEDICAMENTS ET PROCEDE D'UTILISATION  
INVENTOR(S): PORTER, Thomas, R.;  
IVERSEN, Patrick, L.;  
MEYER, Gary, D.  
PATENT ASSIGNEE(S): THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
-----		
WO 2000002588	A1	20000120

DESIGNATED STATES

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK  
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL  
PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU  
ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD  
RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

PRIORITY INFO.: US 1998-09/114,399 19980713  
US 1998-09/118,168 19980717  
APPLICATION INFO.: WO 1999-US15801 A 19990713

ABEN The invention relates to pharmaceutical compositions and methods for delivery of therapeutic agents. The methods and composition of the invention can achieve site specific delivery of a therapeutic substance, allowing for lower doses and for improved efficacy, particularly for agents such as oligonucleotides which have presented problems in reaching targeted sites in necessary therapeutic levels. Targeted introduction of ultrasound can be used to promote release of the therapeutic agent. The delivery system includes protein-encapsulated gas-filled microbubbles formed in an N2-depleted or N2-free environment. These microbubbles are smaller and more stable than microbubbles sonicated in the presence of room air.

ABFR La presente invention concerne des compositions pharmaceutiques et des procedes d'administration d'agents therapeutiques. Les procedes et la composition de l'invention permettent d'effectuer une administration specifique de site d'une substance therapeutique, par consequent a des doses inferieures et avec une plus grande efficacite, en particulier

dans le cas d'agents tels  
que les oligonucleotides qui rencontrent des difficultes pour atteindre  
les sites cibles aux niveaux  
therapeutiques necessaires. L'introduction ciblée d'ultrasons peut être  
utilisee pour favoriser la  
liberation de l'agent therapeutique. Le systeme d'administration de  
l'invention comprend des  
microbulles remplies de gaz encapsulees dans des proteines formees dans  
un milieu pauvre ou depourvu  
de N2. Ces microbulles sont plus petites et plus stables que les  
microbulles formees par traitement  
aux ultrasons en presence d'air ambiant.

=> d ibib kwic 1-8

L12 ANSWER 1 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2006023888 PCTFULL ED 20060403 EW 200609  
TITLE (ENGLISH): IMAGING CELLULAR NUCLEIC ACIDS  
TITLE (FRENCH): IMAGERIE D'ACIDES NUCLEIQUES CELLULAIRES  
INVENTOR(S): KIM, Young, Ro, 69 Newhall st. #4, Lynn, MA 01902, US;  
LIU, Philip, Kuoherng, 233 Mystic Valley Parkway,  
Winchester, MA 01890, US;  
LIU, Christina, Huang, 233 Mystic Valley Parkway,  
Winchester, MA 01890, US;  
ROSEN, Bruce, R., 194 Fallen Road, Lexington, MA 02173,  
US  
PATENT ASSIGNEE(S): THE GENERAL HOSPITAL CORPORATION, 55 Fruit Avenue,  
Boston, MA 02114, US  
AGENT: FASSE, J., Peter et al.\$, Fish & Richardson P.C., 225  
Franklin Street, Boston, MA 02110-2804; 02110-2804\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
-----		
WO 2006023888	A2	20060302

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU  
LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL  
PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA  
UG US UZ VC VN YU ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
LT LU LV MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2004-60603907 20040823

APPLICATION INFO.:

WO 2005-US29875 A 20050823

DETD

The invention also includes methods of treating a cancer cell in a  
patient by  
obtaining a--conjugate -including a targeting-nucleic acid-lin  
ked-to-aii-anti-cancer agent;-  
wherein the targeting nucleic acid hybridizes to a target nucleic acid  
molecule  
corresponding to the cancer cell; and administering the conjugate. . .  
. . .  
mutant ODN can be synthesized to be complementary to a

mutated oncogene, and can be designed to carry one or more anti-cancer agents, such as radiopharmaceuticals or radioisotopes that can inhibit or kill the cancer cell (see FIGs.

Example 2 - Delivery of MION-s-ODN Conjugates

We investigated two groups of mice in this study, control animals with MION

only and mice with the novel conjugate, MION-s-ODN (SEQ. . .

L12 ANSWER 2 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2005076744 PCTFULL ED 20050829 EW 200534  
TITLE (ENGLISH): METHOD FOR THE PREPARATION OF PEPTIDE-OLIGONUCLEOTIDE  
CONJUGATES  
TITLE (FRENCH): PROCEDE DE PREPARATION DE CONJUGUES  
PEPTIDES/OLIGONUCLEOTIDES  
INVENTOR(S): KATZHENDLER, Jehoshua, 68 Hapalmach Street, 92583  
Jerusalem, IL [IL, IL];  
KLAUZNER, Yakir, 22 Burla Street, 93714 Jerusalem, IL  
[IL, IL];  
BEYLIS, Irena, 28 El Nekave Street, 67655 Tel Aviv, IL  
[IL, IL];  
MIZHIRITSKII, Michael, 15/7 Haroeh Street, 76209  
Rehovot, IL [IL, IL];  
SHPERNAT, Yaacov, 2 Hachavatzelet Street, 55454  
Kiriati-Ono, IL [IL, IL];  
ASHKENAZI, Boris, 6/5 Ha'amoraim Street, Rehovot 76549,  
IL [IL, IL];  
FRIDLAND, Dmitri, 5/4 King Hezkia Street, 77497 Ashdod,  
IL [IL, IL]  
PATENT ASSIGNEE(S): FRUTAROM LTD., 25 Hashaish Street, 26110 Haifa, IL [IL,  
IL], for all designates States except US;  
YISSUM RESEARCH DEVELOPMENT COMPANY OF THE HEBREW  
UNIVERSITY OF JERUSALEM, P.O. Box 39135, Givat Ram,  
Jerusalem 91390, IL [IL, IL], for all designates States  
except US;  
KATZHENDLER, Jehoshua, 68 Hapalmach Street, 92583  
Jerusalem, IL [IL, IL], for US only;  
KLAUZNER, Yakir, 22 Burla Street, 93714 Jerusalem, IL  
[IL, IL], for US only;  
BEYLIS, Irena, 28 El Nekave Street, 67655 Tel Aviv, IL  
[IL, IL], for US only;  
MIZHIRITSKII, Michael, 15/7 Haroeh Street, 76209  
Rehovot, IL [IL, IL], for US only;  
SHPERNAT, Yaacov, 2 Hachavatzelet Street, 55454  
Kiriati-Ono, IL [IL, IL], for US only;  
ASHKENAZI, Boris, 6/5 Ha'amoraim Street, Rehovot 76549,  
IL [IL, IL], for US only;  
FRIDLAND, Dmitri, 5/4 King Hezkia Street, 77497 Ashdod,  
IL [IL, IL], for US only  
AGENT: WEBB, Cynthia\$, Webb & Associates, P.O. Box 2189, 76121  
Rehovot\$, IL  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:  
NUMBER KIND DATE  
-----  
WO 2005076744 A2 20050825  
DESIGNATED STATES  
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR

HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
 MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO  
 RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ  
 VC VN YU ZA ZM ZW  
 RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU MC NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 PRIORITY INFO.: US 2004-60/545,173 20040218  
 APPLICATION INFO.: WO 2005-IL204 A 20050217

DETD . . . peptide-oligonucleotide hybrid synthesis, since the chemistries  
 used for peptide and DNA synthesis are not fully compatible. The major  
 obstacle of synthesis  
 of peptide-ODN conjugates emanate from the  
 inadequacy of peptide deprotection methods  
 with ODN stability.

# I 0 EXPERIMENTAL DETAILS SECTION

## EXAMPLE I - SYNTHESIS OF BUILDING UNITS

The major obstacles of sequential synthesis of peptide-ODN  
 conjugate emanate from  
 the inadequacy of peptide deprotection method with ODN stability. In the  
 Fmoc and t-Boc  
 1 5 approaches, side chain deprotections. . .

35. Mazel, M. et al. Doxorubicin-peptide conjugates overcome multidrug  
 resistance. Anti-Cancer Drugs 12, 107-116 (2001).

L12 ANSWER 3 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2004108840 PCTFULL ED 20041220 EW 200451  
 TITLE (ENGLISH): NUCLEOTIDES FOR PREVENTION AND TREATMENT OF BACTERIAL  
 AND FUNGAL PATHOLOGIES  
 TITLE (FRENCH): NUCLEOTIDES CONVENANT A LA PREVENTION ET AU TRAITEMENT  
 DE PATHOLOGIES BACTERIENNES ET FONGIQUES  
 INVENTOR(S): CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US  
 [CN, US];  
 TAN, Xing, Xin, 3410 Rose Water Drive, Manvel, TX  
 77578, US [CN, US]  
 PATENT ASSIGNEE(S): CYTOGENIX, INC., 3100 Wilcrest, Suite 140, Houston, TX  
 77042, US [US, US], for all designates States except  
 US;  
 CHEN, Yin, 2412 Lansing Circle, Pearland, TX 77584, US  
 [CN, US], for US only;  
 TAN, Xing, Xin, 3410 Rose Water Drive, Manvel, TX  
 77578, US [CN, US], for US only  
 AGENT: WISNER, Mark, R.\$, Wisner & Associates, 1177 West Loop  
 South, Suite 400, Houston, TX 77027-9012\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2004108840	A2	20041216

DESIGNATED STATES  
 W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
 HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
 MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO  
 RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ

	VC VN YU ZA ZM ZW	
RW (ARIPO):	BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW	
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM	
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU	
	MC NL PL PT RO SE SI SK TR	
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG	
PRIORITY INFO.:	US 2003-10/453,410	20030603
	US 2003-10/743,956	20031223
	US 2004-10/818,158	20040405
APPLICATION INFO.:	WO 2004-US17331	A 20040603

DETD . . . aureus  
(MRSA), penicillin-resistant *S. pneumococcus* and vancomycin-resistant *E. faecalis*  
(VRE) are now difficult to treat effectively (Pfaller, et al., 1998, Antimicrobial Agents and Chemotherapy, 42:1762-1770; Jones, et al., 1999, Microbiol. Infect. Dis., 33:101-112). Also 'alarming is the emergence of multi-drug resistance pathogens (Swartz, 1994, Proc Natl. Acad. Sci. USA, 91:2420-2427; Baquero, 1997, J. Antimicrobial Chemotherapy, 39:1-6). Fungal pathogens resistant to antifungal agents have also been documented and the frequency will likely increase (Rex, 1997, Clin. . . .

inhibition of bacterial growth by peptide-ODN conjugate.

The inhibition of bacterial growth by peptide-PNA conjugate was evaluated by examining the effect of conjugate dose on the ability of conjugate to inhibit K12 growth. In this study, a peptide-ODN conjugate having the sequence CTC ATA CTC T [Seq. ID No. 34] was added to the 1:150 diluted OIN K12 cell cultures, and . . . of equal volume water as a negative control, and incubated with shaking at 37°C. Immediately after, diluting the OIN culture 1:150, peptide-ODN conjugate was added to final concentration of 4 pK 40 pK or 400 VK 'with addition of equal volume water as a . . . viable cell count by diluting the cultures and plating in triplicate on LB plates. As shown in Figure 16, upon addition of peptide-ODN conjugate, cell growth was inhibited by 82.8%.

Reduction of mouse bacterial load in blood by peptide-ODN conjugate\*  
The efficacy of peptide-ODN conjugate therapy was evaluated by examining the ability of the conjugate to reduce mouse bacterial load in blood. In this study, the log-phase . . . by *Lp.* injection of  $3 \times 10^9$  CFU wild-type bacteria K12. The infected mice were treated with a single injection of 50 nmol peptide-ODN conjugate [Seq. ID No.



ACCESSION NUMBER: 2002101095 PCTFULL ED 20030102 EW 200251  
 TITLE (ENGLISH): METHODS AND PRODUCTS FOR ANALYZING NUCLEIC ACIDS USING  
 NICK TRANSLATION  
 TITLE (FRENCH): PROCEDES ET PRODUITS PERMETTANT D'ANALYSER DES ACIDES  
 NUCLEIQUES AU MOYEN DE LA TRANSLATION DE COUPURE  
 INVENTOR(S): WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445,  
 US [US]  
 PATENT ASSIGNEE(S): U.S. GENOMICS, INC., 6H Gill Street, Woburn, MA 01801,  
 US [US, US];  
 WONG, Gordon, G., 239 Clark Road, Brookline, MA 02445,  
 US [US]  
 AGENT: LOCKHART, Helen, C.\$, Wolf, Greenfield & Sacks, P.C.,  
 600 Atlantic Avenue, Boston, MA 02210\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2002101095	A1	20021219
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# DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
 IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
 MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI  
 SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
 TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2001-60/297,080 20010608

APPLICATION INFO.: WO 2002-US18122 A 20020610

DETD . . . K., Sando S., Saito I. Photoinduced cleavage of single and  
 double stranded DNA at  
 single guanine proximal to target sequence by dibenzoyldiazomethane-  
 ODN conjugate  
 Nucleic Acids Symp Ser 37, 85-6, 1997  
 Pan CQ, Landgraf R., Sigman DS DNA-binding proteins as site specific  
 nucleases Mol  
 Microbiol 1994 12(3):335-42  
 Kittler. . .

CLMEN 36 The method of claim 33, wherein the therapeutic treatment is an  
 anti-cancer agent.

37 The method of claim 36, wherein the anti-cancer  
 agent is a DNA damaging agent.

L12 ANSWER 5 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER: 2002010201 PCTFULL ED 20020814

TITLE (ENGLISH): PEPTIDE-MEDIATED DELIVERY OF MOLECULES INTO CELLS

TITLE (FRENCH): ADMINISTRATION DE MOLECULES DANS DES CELLULES PAR  
 MEDIATION PEPTIDIQUE

INVENTOR(S): DIVIDA, Gilles;  
 MORRIS, May;  
 MERY, Jean;  
 HEITZ, Frederic;  
 FERNANDEZ, Joseph;  
 ARCHDEACON, John;  
 HORNDORP, Kyle

PATENT ASSIGNEE(S): ACTIVE MOTIF;  
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE;  
DIVIDA, Gilles;  
MORRIS, May;  
MERY, Jean;  
HEITZ, Frederic;  
FERNANDEZ, Joseph;  
ARCHDEACON, John;  
HORNDORP, Kyle  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002010201	A2	20020207

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW GH GM KE LS MW  
MZ SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE  
CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR BF  
BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2000-60/221,932 20000731  
APPLICATION INFO.: WO 2001-US23406 A 20010726

DETD FIG. 6 shows the cellular localization of. (A) ODN-  
conjugate (5 min incubation at  
37'C and (B) Control with free ODN. (C) gives the Ba++ current density  
of treated H9C2  
cells.

Another example of a therapeutic agent that can be delivered as a  
chemotherapeutic agent according to the invention is a  
cyclin-dependent docking site  
mimic or ligand such as described by Chen et al. (1999). . .

L12 ANSWER 6 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2000020039 PCTFULL ED 20020515  
TITLE (ENGLISH): METHODS AND ADJUVANTS FOR STIMULATING MUCOSAL IMMUNITY  
TITLE (FRENCH): PROCEDES ET ADJUVANTS STIMULANT L'IMMUNITE DES  
MUQUEUSES  
INVENTOR(S): RAZ, Eyal;  
HORNER, Anthony, A.;  
CARSON, Dennis, A.  
PATENT ASSIGNEE(S): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2000020039	A1	20000413

DESIGNATED STATES

W:

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE  
KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO  
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ  
VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY  
KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE  
IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE  
SN TD TG

PRIORITY INFO.: US 1998-09/167,039 19981005

DETD . . . will  
 take the form of free ISS-ODN oligonucleotides, ISS-ODN  
 oligonucleotide-peptide  
 conjugates and ISS-containing recombinant expression vectors (data  
 regarding the  
 1 5 activity of ISS-ODN conjugates and ISS-ODN  
 vectors are set forth in co-pending,  
 commonly assigned U.S. patent applications Serial Nos. 60/028,118 and  
 08/593,554; data  
 from which is. . .

. . .  
 of 599 U/ml, in (BALF) of 1432 U/ml  
 and in vaginal swabs of 16000 U/ml. Surprisingly, IgA levels achieved  
 in the P-gal/ISS-  
 ODN conjugate immunized mice were comparable to the  
 levels achieved in mice  
 I 0 immunized with antigen and CT (without statistically significant  
 difference);. . .

. . .  
 BCL-2 protein on lymph-node biopsy samples. In addition, patients had to  
 have  
 relapsing disease after the completion of at least two  
 chemotherapy regimens, a  
 life expectancy of more than 12 weeks, normal renal and liver function,  
 a  
 white-blood-cell count of more than 3 109/L,. . .

. . .  
 week 6, infiltration of bone marrow  
 and progressive disease in lymph nodes was observed. Because the  
 thrombocytopenia and eosinophilia resolved with subsequent  
 chemotherapy,  
 these effects were more likely to result from advanced-stage lymphoma  
 than from  
 the antisense oligonucleotide. Lymphopenia was present in four patients  
 (patients  
 3,. . .

. . .  
 5 end of treatment. These episodes were caused by obstruction of the  
 superior vena  
 cava due to progressive mediastinal disease. After chemotherapy  
 to reduce this  
 obstruction, no further episodes have occurred. All nine patients had a  
 transient  
 increase in non-fasting blood concentrations of glucose,. . .

CLMEN. . . an antigen.

4 2  
 13ALF  
 00004%  
 oe,e0  
 E Feces  
 3000  
 Serum  
 0)  
 ROUND  
 O] 2000  
 rM  
 C] OF  
 OIL  
 10000-

T  
'rere  
oeoe,  
0  
Route: I.n. Ln. Ln. lode  
Antigen: B.gal B-gal 6-gal 6,,gal B,,gal  
Adjuvant: ISS-ODN CT MaODN ISSaODN  
Fig. a  
Ln. [wgal:ISS]ODN  
conjugate  
Ln. Pmgal+ISSmODN  
comdeliv.ery  
Ln. P]gal+CT  
comdelivery  
Ln. pmgal  
Ln. Pmgal+M]ODN  
comdelivery  
i.d. f3wgal+ISS]013  
comdelivery  
0 5000 10000 15000 20000  
Vaginal IgA (U/ml)  
Fig. I b  
Lfv.13]901&  
Isswoopi  
ion, 0=991  
CT  
Ion, of  
GI  
Iss-COM  
a 1000 21M 3000 0 25. . . immunization  
100-  
T  
75-- Ln. bgal+CT  
T i.n. bgalJSS conjugate  
l.n. bgal + ISS  
50- Q  
% LYSIS i.g. bgal+CT  
\TO  
EB- i.g. bgal:ISS  
25  
i.g. bgal + ISS  
0  
EffectorTarget Ratio  
Fig. 4  
Ln. p]gal:JSS]ODN  
conjugate  
Ln. p]gal+JSSwOM  
comdelivery  
Ln. p-gal+CT  
cowdelivery  
Ln. Pgal  
Ln. p-gal+MmODN.  
cowdelivery  
Ld. p=gal+ISSmOM  
comdel Ivery  
0 2000 4000 6000 8000  
Serum ant]p-gaklgE (U/ml)  
Figs  
IL4 Production in Response to Anti-CD3  
2500  
2000 - -  
1500 -. . .

L12 ANSWER 7 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2000012523 PCTFULL ED 20020515  
 TITLE (ENGLISH): DIAZIRIDINYL-ARYL AND BIS-[DI(CHLOROETHYL)AMINO]-ARYL  
 OLIGONUCLEOTIDE CONJUGATES AND REAGENTS FOR MAKING THE  
 SAME  
 TITLE (FRENCH): CONJUGUES OLIGONUCLEOTIDIQUES DE DIAZIRIDINYL-ARYLE ET  
 DE BIS-[DI(CHLOROETHYL)AMINO]-ARYLE, ET REACTIFS POUR  
 LEUR PREPARATION  
 INVENTOR(S): REED, Michael, W.;  
 KUTYAVIN, Igor, V.;  
 LUKHTANOV, Eugeny, A.;  
 WALD, J., Ansel;  
 MEYER, Rich, B., Jr.  
 PATENT ASSIGNEE(S): EPOCH PHARMACEUTICALS, INC.  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2000012523	A1	20000309

# DESIGNATED STATES

W:

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
 DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE  
 KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO  
 NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ  
 VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG  
 KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN  
 TD TG

PRIORITY INFO.: US 1998-09/136,779 19980826  
 APPLICATION INFO.: WO 1999-US19478 A 19990825

## DETD . . . of the Prior Art

Agents capable of alkylating nucleic acids have been known in the prior art and have found application in chemotherapy, diagnostic and related fields

1 5 and as genetic probes for molecular biology. Several drugs used in cancer

1 6 chemotherapy are bifunctional alkylating agents, particularly bifunctional

nitrogen mustards. Examples of clinically used nitrogen mustards are

1 8 mechlorethamine, melphalan and chlorambucil. These. . .

the length of a chain of approximately

20 carbon atoms. In practice, as a result of the manner in which the ODN-

conjugates of the invention are synthesized, the LINKER is usually comprised

I 1 of two parts or moieties. Before completion of the ODN-conjugate molecule

one of these parts or moieties is usually attached to the ODN, in preferred

embodiments to the tail of the ODN,. . .

In the herein described specific embodiments, phenyl groups having no R, substituent (other than the LINKER) are preferred for the ODN-conjugates

having the bis-[di(chloroethyl)amino]-aryl cross-linking groups. For the 1 8 ODN-conjugates having the diaziridinyl-aryl

cross-linking groups alkyl, more

preferably methyl, substituted 1,4-quinones are preferred. The number of

cross-linkers attached in the preferred embodiments. . .

In the preferred examples of the ODN-conjugates of the invention the  
I 0 LINKER contains an aminoalkyl tail of the ODN. As noted above,  
I I aminoalkyl, and specifically. . . groups, combined with SPACER  
moieties of the  
preferred embodiments provide an exceptionally good combination for  
selective reactivity that allows formation of the ODN-  
conjugates within the  
scope of fon-nulas (1) and (2), by reaction of a 5 ' aminohexyl tailed  
ODN with  
reagents wherein the C.G.-SPACER-. . .

To quantitate the relative reactivity of the nitrogen mustard  
((di(chloroethyl)amino group) containing ODN-  
conjugates the ODN's of  
1 1 SEQUENCE ID Nos. 2, 3, and 4 were reacted with a model nucleophile  
(sodium thiosulfate) and degradation. . .

. . .  
at room temperature in thiosulfate solution a complex mixture  
of degradation products was observed with only 2% of the hydroquinone  
form  
of ODN-conjugate of SEQUENCE ID No. 5 remaining.

Sequence Specific DNA Alkylation by Triplex Forming ODN-  
conjugates o  
I I SEQUENCE ID Nos. 2 through 6  
Sequence specific alkylation of the synthetic 65-mer ds DNA target of  
SEQUENCE ID No.. . .

Reaction of the ODNs Conjugates SEQUENCE ID Nos. 2 -  
5 with a Model  
Nucleophile  
1 00 gL of a 0. I MM solution of the ODN. . .

L12 ANSWER 8 OF 8 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2000002588 PCTFULL ED 20020515  
TITLE (ENGLISH): TARGETED SITE SPECIFIC DRUG DELIVERY COMPOSITIONS AND  
METHOD OF USE  
TITLE (FRENCH): COMPOSITIONS DESTINEES A L'ADMINISTRATION CIBLEE  
SPECIFIQUE DE SITE DE MEDICAMENTS ET PROCEDE  
D'UTILISATION  
INVENTOR(S): PORTER, Thomas, R.;  
IVERSEN, Patrick, L.;  
MEYER, Gary, D.  
PATENT ASSIGNEE(S): THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:  
NUMBER KIND DATE  
-----  
WO 2000002588 A1 20000120  
DESIGNATED STATES  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK  
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL  
PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU  
ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD  
RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
PRIORITY INFO.: US 1998-09/114,399 19980713

APPLICATION INFO.: US 1998-09/118,168 19980717  
WO 1999-US15801 A 19990713

DETD . . . carriers based upon proteins,  
0 polysaccharides, synthetic polymers, erythrocytes, DNA and liposomes.  
New generation biologicals  
such as monoclonal antibodies, gene therapy vectors, anti-  
cancer drugs such as taxol, viral based  
drugs, and oligonucleotides (ODN) and polynucleotides have presented  
several problems with regard  
to delivery. In fact,. . .  
. . .  
and side effects. Furthermore, the  
invention can enhance the effectiveness of other plasma-bound drugs such  
as heparin, diltiazem,  
lidocaine, propranolol, cyclosporin, and chemotherapeutic  
agents which require blood pool activation.  
. . .  
are known to those of skill in the art. See, e.g., Iversen, 1991, In  
vivo Studies with  
Phosphorothioate Oligonucleotides: Pharmacokinetics Prologue,  
Anticancer Drug Des. 6:531  
V. Delivery Methods  
0 In preferred methods for practicing the delivery therapy of the  
invention, a pharmaceutical liquid  
agent. . .  
  
Example 3. Preparation of Microbubble/ODN Conjugate  
Uniformly 35 S-labeled PS-ODNs (phosphorothioate oligonucleotides), with  
sequences 5'-TAT  
GCT GTG CCG GGG TCT TCG GGC 3' (24-mer complementary to c-myb) (SEQ. .  
.

=> s cpg

7425 CPG  
443 CPGS  
L13 7498 CPG  
(CPG OR CPGS)

=> s cpg conjugate

7425 CPG  
443 CPGS  
7498 CPG  
(CPG OR CPGS)  
37893 CONJUGATE  
24631 CONJUGATES  
47305 CONJUGATE  
(CONJUGATE OR CONJUGATES)  
L14 12 CPG CONJUGATE  
(CPG(W)CONJUGATE)

=> d his

(FILE 'HOME' ENTERED AT 07:50:59 ON 14 FEB 2008)

FILE 'CAPLUS' ENTERED AT 07:51:25 ON 14 FEB 2008

L1 4525 S ODN  
L2 573913 S TARGET?  
L3 1105 S L1 (L) L2  
L4 1407735 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?  
L5 263 S L4 AND L3

L6 148361 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?  
L7 22 S L6 AND L5  
L8 9 S L7 NOT PY>2003

FILE 'PCTFULL' ENTERED AT 07:59:38 ON 14 FEB 2008

L9 25 S ODN CONJUGATE  
L10 772570 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?  
L11 52876 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?  
L12 8 S L11 AND L9  
L13 7498 S CPG  
L14 12 S CPG CONJUGATE

=> s l14 and l11  
L15 5 L14 AND L11

=> d ibib 1-4

L15 ANSWER 1 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2007089871 PCTFULL ED 20070815 EW 200732  
TITLE (ENGLISH): POLYPEPTIDE-NUCLEIC ACID CONJUGATE FOR  
IMMUNOPROPHYLAXIS OR IMMUNOTHERAPY FOR NEOPLASTIC OR  
INFECTIOUS DISORDERS  
TITLE (FRENCH): CONJUGUE D'ACIDE NUCLEIQUE DE POLYPEPTIDES DESTINE A  
L'IMMUNOPROPHYLAXIE OU A L'IMMUNOTHERAPIE DES TROUBLES  
NEOPLASIQUES OU INFECTIEUX  
INVENTOR(S): BEDI, Atul, 2211 Datewood Road, Timonium, MD 21093, US;  
RAVI, Rajani, 7810 Ballston Road, Ruxton, MD 21204, US;  
LI, Shulin, 6322 Riverbend Lake Drive, Baton Rouge, LA  
70820, US  
PATENT ASSIGNEE(S): THE JOHNS HOPKINS UNIVERSITY, 100 North Charles Street,  
5th Floor, Baltimore, MD 21201, US;  
BOARD OF SUPERVISORS OF LOUISIANA STATE UNIVERSITY AND  
AGRICULTURAL AND MECHANICAL COLLEGE, 206 La Emerging  
Technology Center, Louisiana State University, Baton  
Rouge, LA 70803, US  
AGENT: HAILE, Lisa, A.\$, Dla Piper Us LLP, 4365 Executive  
Drive, Suite 1100, San Diego, CA 92121-2133;  
92121-2133\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2007089871	A2	20070809

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM GT  
HN HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LA LC LK  
LR LS LT LU LV LY MA MD MG MK MN MW MX MY MZ NA NG NI  
NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV  
SY TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
LT LU LV MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2006-60764223 20060201

US 2006-60833100 20060725

APPLICATION INFO.:

WO 2007-US2705 A 20070131

L15 ANSWER 2 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN



ACCESSION NUMBER: 2006052900 PCTFULL ED 20060523 EW 200620  
 TITLE (ENGLISH): TARGETED INNATE IMMUNITY  
 TITLE (FRENCH): IMMUNITE INNEE CIBLEE  
 INVENTOR(S): EPSTEIN, Alan, L., 4710 Hillard Avenue, La Canada, California 91011, US;  
 KHAWLI, Leslie, A., 2108 South Eighth Avenue, Arcadia, California 91006, US  
 PATENT ASSIGNEE(S): UNIVERSITY OF SOUTHERN CALIFORNIA, 3716 South Hope Street, Suite 313, Los Angeles, California 90007-4344, US  
 AGENT: WILSON, Barry, S. et al.\$, FOLEY & LARDNER LLP, P.O. Box 80278, San Diego, California 92138-0278; 92138-0278\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2006052900	A2	20060518
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# DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
 HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT  
 LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG  
 PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT  
 TZ UA UG US UZ VC VN YU ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU LV MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2004-60626829 20041109

APPLICATION INFO.:

WO 2005-US40315 A 20051108

L15 ANSWER 3 OF 5

PCTFULL COPYRIGHT 2008 Univentio on STN

ACCESSION NUMBER:

2003028634 PCTFULL ED 20030416 EW 200315

TITLE (ENGLISH):

METHOD OF TREATMENT USING LIGAND-IMMUNOGEN CONJUGATES

TITLE (FRENCH):

METHODE DE TRAITEMENT UTILISANT DES CONJUGUES

LIGAND-IMMUNOGENE

INVENTOR(S):

LOW, Philip, Stewart, 5850 Farm Ridge Road, West  
 Lafayette, IN 47906, US [US, US];  
 LU, Yingjuan, 833 Warrick Street, West Lafayette, IN  
 47906, US [CN, US]

PATENT ASSIGNEE(S):

PURDUE RESEARCH FOUNDATION, 1291 Cumberland Avenue,  
 West Lafayette, IN 47906, US [US, US];  
 LOW, Philip, Stewart, 5850 Farm Ridge Road, West  
 Lafayette, IN 47906, US [US, US], for US only;  
 LU, Yingjuan, 833 Warrick Street, West Lafayette, IN  
 47906, US [CN, US], for US only

AGENT:

LAMMERT, Steven, R.\$, Barnes & Thornburg, 11 South  
 Meridian Street, Indianapolis, IN 46204\$, US

LANGUAGE OF FILING:

English

LANGUAGE OF PUBL.:

English

DOCUMENT TYPE:

Patent

PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2003028634	A2	20030410
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# DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID

IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
 MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI  
 SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC  
 NL PT SE SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 PRIORITY INFO.: US 2001-60/325,793 20010928  
 US 2001-60/326,322 20011001  
 US 2002-60/391,654 20020626  
 APPLICATION INFO.: WO 2002-US30546 A 20020926

L15 ANSWER 4 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 1999064065 PCTFULL ED 20020515  
 TITLE (ENGLISH): TUMOUR THERAPY AND IMAGING  
 TITLE (FRENCH): THERAPIE ANTI-TUMORALE ET IMAGERIE DES TUMEURS  
 INVENTOR(S): BAGSHAW, Kenneth, Dawson  
 PATENT ASSIGNEE(S): ENZACTA R & D LIMITED;  
 BAGSHAW, Kenneth, Dawson  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9964065	A2	19991216

DESIGNATED STATES  
 W: AU BR CA CN ID IN JP KR MX US AT BE CH CY DE DK ES FI  
 FR GB GR IE IT LU MC NL PT SE  
 PRIORITY INFO.: GB 1998-9812550.3 19980611  
 APPLICATION INFO.: WO 1999-GB1870 A 19990611

=> d ibib abs kwic 1-4

L15 ANSWER 1 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
 ACCESSION NUMBER: 2007089871 PCTFULL ED 20070815 EW 200732  
 TITLE (ENGLISH): POLYPEPTIDE-NUCLEIC ACID CONJUGATE FOR  
 IMMUNOPROPHYLAXIS OR IMMUNOTHERAPY FOR NEOPLASTIC OR  
 INFECTIOUS DISORDERS  
 TITLE (FRENCH): CONJUGUE D'ACIDE NUCLEIQUE DE POLYPEPTIDES DESTINE A  
 L'IMMUNOPROPHYLAXIE OU A L'IMMUNOTHERAPIE DES TROUBLES  
 NEOPLASQUES OU INFECTIEUX  
 INVENTOR(S): BEDI, Atul, 2211 Datewood Road, Timonium, MD 21093, US;  
 RAVI, Rajani, 7810 Ballston Road, Ruxton, MD 21204, US;  
 LI, Shulin, 6322 Riverbend Lake Drive, Baton Rouge, LA  
 70820, US  
 PATENT ASSIGNEE(S): THE JOHNS HOPKINS UNIVERSITY, 100 North Charles Street,  
 5th Floor, Baltimore, MD 21201, US;  
 BOARD OF SUPERVISORS OF LOUISIANA STATE UNIVERSITY AND  
 AGRICULTURAL AND MECHANICAL COLLEGE, 206 La Emerging  
 Technology Center, Louisiana State University, Baton  
 Rouge, LA 70803, US  
 AGENT: HAILE, Lisa, A.\$, Dla Piper Us LLP, 4365 Executive  
 Drive, Suite 1100, San Diego, CA 92121-2133;  
 92121-2133\$, US  
 LANGUAGE OF FILING: English  
 LANGUAGE OF PUBL.: English  
 DOCUMENT TYPE: Patent  
 PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2007089871

A2 20070809

## DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
 CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM GT  
 HN HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LA LC LK  
 LR LS LT LU LV LY MA MD MG MK MN MW MX MY MZ NA NG NI  
 NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV  
 SY TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

RW (ARIPO):

BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
 LT LU LV MC NL PL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.:

US 2006-60764223 20060201

US 2006-60833100 20060725

APPLICATION INFO.:

WO 2007-US2705 A 20070131

ABEN

The present invention discloses compositions which induce cross-activation of immune mediated and direct death signaling in targeted cells by exploiting the properties of a antibody/peptide-nucleic acid conjugate. The conjugate is able to simultaneously activate multiple death signaling mechanisms that are specifically targeted to neoplastic cells, including tumor cells. Methods of using the conjugate of the present invention as an immunotherapeutic modality for the treatment or prevention of neoplastic diseases or other disorders is also disclosed. Further, methods are disclosed for identifying such conjugates by assaying test agents for various cytotoxic responses, including the induction of hyperfusion between neoplastic cells in vitro.

ABFR

La presente invention concerne des compositions qui induisent une activation croisee de la signalisation de la mort mediee par le systeme immunitaire et directe dans des cellules cibles par l'exploitation des proprietes d'un conjugue anticorps/acide nucleique de polypeptides. Le conjugue est capable d'activer simultanement plusieurs mecanismes de signalisation de mort qui sont particulierement cibles sur des cellules neoplasiques, incluant des cellules cancreuses. L'invention concerne egalement des procedes d'utilisation dudit conjugue en tant que modalite immunotherapeutique pour le traitement ou la prevention de maladies neoplasiques ou autres troubles. En outre, l'invention concerne des procedes d'identification de tels conjugues par l'analyse d'agents de test pour diverses reponses cytotoxiques, comprenant l'induction d'une hyperfusion entre des cellules neoplasiques in vitro.

DETD

## BACKGROUND INFORMATION

100021 Chemotherapy is a cornerstone of the current management of cancers. The induction of cell death by chemotherapeutic agents involves DNA damage-induced activation of an intrinsic death signaling pathway that depends on the function of the p53 tumor suppression. . . .

. . . of cell death via cleavage of critical substrates that maintain cytoskeletal and DNA integrity. Therefore, the susceptibility of tumor cells to chemotherapy-induced apoptosis is determined by a dynamic balance between p53/BAX-mediated mitochondrial death signaling and expression of survival proteins that counteract mitochondrial perineabilization (Bcl-XL). . . . (loss/inactivation of death signaling proteins and/or overexpression/activation of survival signals) which reduce cellular susceptibility to apoptosis and limit the antitumor efficacy of chemotherapy. The antitumor efficacy of

chemotherapeutic agents may be limited by their extrusion from cancer cells expressing multidrug resistance proteins, as well as dose-limiting cytotoxicity to normal tissues.

conjugate ex vivo, and reintroducing the cells into the subject. In a further aspect, the method includes administering other agents including chemotherapeutic agents, ionizing radiation, non-nonal therapy, cellular immunotherapy, vaccines, monoclonal antibodies, biological therapy, anti-angiogenic therapy, or small molecule-targeted therapy.

(e.g., neoplastic cells) (FIG. 1 and FIG. 2). While not being bound by theory, and in contrast to the effects of genotoxic

chemotherapeutic agents, use of DNA-conjugated or RNA-conjugated antibodies/peptides enables the activation of death signaling in targeted cells without corresponding effects on non-nal tissues that.

[0044] In one aspect, the conjugates of the present invention are used alone or in combination

with other anticancer such as chemotherapeutic agents ionizing radiation, hormonal therapy, cytokines, immunotherapy, cellular therapy, vaccines, monoclonal antibodies, antiangiogenic agents, targeted therapeutics (small molecule drugs), or biological therapies. For example,

chemotherapeutic agents include, but are not limited to, antitumor alkylating agents such as Mustards (mechlorethamine HCl, melphalan, chlorambucil, cyclophosphamide, ifosfamide, busulfan), Nitrosoureas (13CNINCarmustine, . . . MeCCN-U/semusti-ne, fotemustine, streptozotocin), Tetrazines (dacarbazine, mitozolomide, temozolomide), Aziridines (thiotepa, mitomycin C, AZQ/diaziquone), procarbazine HCl, hexamethylmelamine, adozelesin; cisplatin and its analogues, cisplatin, carboplatin, oxaliplatin; antimetabolites, methotrexate, other antifolates, 5-fluoropyrimidines (5-fluorouracil/5-FU), cytarabine, azacitidine, gemcitabine, 6-thiopurines (6-mercaptopurine, thioguanine), hydroxyurea; topoisomerase interactive agents epipodophyllotoxins (etoposide, teniposide), camptothecin analogues (topotecan HCl, . . .

anti-CD8 FITC (CD8 FITC) and then analyzed by flow cytometry. PBMCs showed increased numbers of CD56<sup>+</sup> cells following stimulation with EGFR Ab-CpG conjugate, but not following treatment with EGFR Ab control DNA conjugate (FIG. 6).

Novel Form of Targeted Cell Death - Cell Hyperfusion - that is Not Observed in Response to Any Known Class of Anticancer Agents  
f01301 EGFR expressing human colon cancer cells (HT-29) were plated (5 x 10<sup>4</sup> cells/ml) in the presence of either anti-EGFR. . .

anticancer therapy selected  
from the group consisting of ionizing radiation, hon-nonal therapy,  
cytokines, immunotherapy,  
cellular therapy, vaccines, monoclonal antibodies, anti-angiogenic  
agents, and small molecule  
chemotherapeutic drugs.

34 The method of claim 32, further comprising administering an  
anticancer therapy selected  
from the group consisting of ionizing radiation, hormonal therapy,  
cytokines, immunotherapy,  
PCT/US2007/002705 cellular therapy, vaccines, monoclonal antibodies,  
anti-angiogenic agents, and small molecule  
chemotherapeutic drugs.

L15 ANSWER 2 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2006052900 PCTFULL ED 20060523 EW 200620  
TITLE (ENGLISH): TARGETED INNATE IMMUNITY  
TITLE (FRENCH): IMMUNITE INNÉE CIBLEE  
INVENTOR(S): EPSTEIN, Alan, L., 4710 Hillard Avenue, La Canada,  
California 91011, US;  
KHAWLI, Leslie, A., 2108 South Eighth Avenue, Arcadia,  
California 91006, US  
PATENT ASSIGNEE(S): UNIVERSITY OF SOUTHERN CALIFORNIA, 3716 South Hope  
Street, Suite 313, Los Angeles, California 90007-4344,  
US  
AGENT: WILSON, Barry, S. et al.\$, FOLEY & LARDNER LLP, P.O.  
Box 80278, San Diego, California 92138-0278;  
92138-0278\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
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WO 2006052900	A2	20060518

DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO  
CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR  
HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT  
LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG  
PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT  
TZ UA UG US UZ VC VN YU ZA ZM ZW  
RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT  
LT LU LV MC NL PL PT RO SE SI SK TR  
RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2004-60626829 20041109  
APPLICATION INFO.: WO 2005-US40315 A 20051108

ABEN Provided is a cancer therapeutic agent comprising a cancer targeting  
molecule linked to a CpG oligodeoxynucleotide. Also provided are methods  
of reducing the size of a tumor or inhibiting the growth of cancer cells  
in an individual or inhibiting the development of metastatic cancer,  
comprising administering an effective amount of the cancer therapeutic  
agent. The methods may also include reducing immunoregulatory T cell  
activity in the individual.

ABFR L'invention concerne un agent anticancereux comprenant une molecule  
ciblant le cancer lie a un oligodeoxynucleotide CpG. L'invention  
concerne egalement des procedes de reduction de la taille d'une tumeur  
ou l'inhibition de la croissance de cellules cancéreuses chez un  
individu ou l'inhibition du developpement d'un cancer metastatique, par

administration d'une quantite efficace de l'agent anticancereux. Ces  
procedes peuvent egalement consister a reduire l'activite des  
lymphocytes T immunoregulateurs chez un individu.

DETD [0003] Surgery, radiation therapy, and chemotherapy have been  
the standard  
accepted approaches for treatment of cancers including leukemia, solid  
tumors, and  
metastases. Immunotherapy (sometimes called biological therapy,  
biotherapy,. . .

. . .  
improve clinical radiotherapy (Milas, et  
al., Cancer Res. (2004) 64:5074-5077). Likewise, CpG ODN therapy has  
been shown  
to be enhanced by prior chemotherapy and as such have the  
potential to improve with  
prior drug therapy (Li and Levy, Abstract, 19th Intl. Soc. Biol.  
Therapy,. . .

CpG ODN alone (positive control) and the CpG conjugate  
is added at different  
equimolar concentrations (0.03 to 10.0 [tg/ml) to the cell cultures.  
The cells are  
incubated at 37'C for 24hr. . .

L15 ANSWER 3 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 2003028634 PCTFULL ED 20030416 EW 200315  
TITLE (ENGLISH): METHOD OF TREATMENT USING LIGAND-IMMUNOGEN CONJUGATES  
TITLE (FRENCH): METHODE DE TRAITEMENT UTILISANT DES CONJUGUES  
LIGAND-IMMUNOGENE  
INVENTOR(S): LOW, Philip, Stewart, 5850 Farm Ridge Road, West  
Lafayette, IN 47906, US [US, US];  
LU, Yingjuan, 833 Warrick Street, West Lafayette, IN  
47906, US [CN, US]  
PATENT ASSIGNEE(S): PURDUE RESEARCH FOUNDATION, 1291 Cumberland Avenue,  
West Lafayette, IN 47906, US [US, US];  
LOW, Philip, Stewart, 5850 Farm Ridge Road, West  
Lafayette, IN 47906, US [US, US], for US only;  
LU, Yingjuan, 833 Warrick Street, West Lafayette, IN  
47906, US [CN, US], for US only  
AGENT: LAMMERT, Steven, R.\$, Barnes & Thornburg, 11 South  
Meridian Street, Indianapolis, IN 46204\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
-----		
WO 2003028634	A2	20030410

DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI  
SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC  
NL PT SE SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

PRIORITY INFO.: US 2001-60/325,793 20010928  
US 2001-60/326,322 20011001

US 2002-60/391,654      20020626  
APPLICATION INFO.:      WO 2002-US30546      A      20020926

ABEN    A method and pharmaceutical composition are provided for enhancing the endogenous immune response-mediated elimination of a population of pathogenic cells in a host animal wherein the pathogenic cells preferentially express, uniquely express or overexpress abinding site for a particular ligand. The invention comprises administering to a host animal harboring the population of pathogenic cells the ligand conjugated to an immunogen capable of activating a toll-like receptor. At least one additional therapeutic factor can be administred wherein the therapeutic factor is a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate.

ABFR    L'invention concerne une methode et une composition pharmaceutique destinees a ameliorer l'elimination induite par reponse immunitaire endogene d'une population de cellules pathogenes chez un animal hote, ces cellules pathogenes exprimant preferentiellement ou uniquement ou surexprimant un site de liaison pour un ligand particulier. La methode de l'invention consiste a administrer a un animal hote hebergeant cette population de cellules pathogenes le ligand conjugue a un immunogene capable d'activer un recepteur de type Toll. Au moins un facteur therapeutique peut egalement etre administre. Ce facteur therapeutique est un compose capable de stimuler une reponse immunitaire endogene, ledit compose ne se liant pas au conjugue ligand-immunogene.

DETD    . . . cells, other pathogenic cells, or infectious  
1 5 agents evade a host immune response and proliferate or persist with concomitant host pathogenicity. Chemotherapeutic agents and radiation therapies have been developed to eliminate replicating neoplasms. However, most, if not all, of the currently available chemotherapeutic agents and radiation therapy regimens have adverse side effects because they work not only to destroy cancer cells, but they also affect normal host cells, such as cells of the hematopoietic system. Furthermore, chemotherapeutic agents have limited efficacy in instances where host drug resistance is developed.

. . .  
capacity of cancer cells and infectious organisms to develop resistance to therapeutic agents, and the adverse side effects of the currently available anticancer drugs, highlight the need for the development of new therapies specific for pathogenic cell populations with reduced host toxicity.

. . .  
be used. The method of the present invention can be used in combination with surgical removal of a tumor, radiation therapy, chemotherapy, or biological therapies such as other immunotherapies including, but not limited to, monoclonal antibody therapy, treatment with immunomodulatory agents, adoptive transfer of immune. . .

Chemotherapeutic agents, which are cytotoxic themselves and can work to enhance tumor permeability, can be used in combination with the ligand-immunogen conjugates and cytokines in the method of the invention and

such

chemotherapeutic agents include adrenocorticoids, alkylating agents, antiandrogens, antiestrogens, androgens, estrogens, antimetabolites such as cytosine arabinoside, purine analogs, pyrimidine analogs, and methotrexate, busulfan, carboplatin, chlorambucil, cisplatin and other platinum compounds, tamoxiphen, taxol, cyclophosphamide, plant alkaloids,. . . prednisone, hydroxyurea, teniposide, antibiotics such as mitomycin C and bleomycin, nitrogen mustards, nitrosureas, vincristine, vinblastine, inflammatory and proinflammatory agents, and any other art-recognized

chemotherapeutic agent. Other therapeutic agents that can be administered adjuvant to the administration of the present conjugates, include penicillins, cephalosporins, vancomycin, erythromycin, clindamycin,. . .

. . . treatment to prevent return of a tumor after its removal by any therapeutic approach including surgical removal of the tumor, radiation therapy, chemotherapy, or biological therapy 10 is also contemplated in accordance with this invention. The prophylactic treatment can be an initial treatment with. . .

. . . dipeptide and taxol or a CpG nucleotide linked to the same or different ligands in a co-dosing protocol. In the case of,chemotherapeutic and antimicrobial agents, the therapeutic factor can be administered at a suboptimal dose along with the ligand-immunogen conjugate in a combination therapy to avoid development of resistance to the chemotherapeutic or antimicrobial agent by the host animal.

#### EXAMPLE 2

##### EFFECT OF FOLATE-CpG CONJUGATES

##### ON SURVIVAL OF MICE WITH LUNG TUMOR IMPLANTS

Female B alb/c mice were injected on day 0 with 5 x 10<sup>5</sup>. . .

L15 ANSWER 4 OF 5 PCTFULL COPYRIGHT 2008 Univentio on STN  
ACCESSION NUMBER: 1999064065 PCTFULL ED 20020515  
TITLE (ENGLISH): TUMOUR THERAPY AND IMAGING  
TITLE (FRENCH): THERAPIE ANTI-TUMORALE ET IMAGERIE DES TUMEURS  
INVENTOR(S): BAGSHAW, Kenneth, Dawson  
PATENT ASSIGNEE(S): ENZACTA R & D LIMITED;  
BAGSHAW, Kenneth, Dawson  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

NUMBER	KIND	DATE
-----		
WO 9964065	A2	19991216

#### DESIGNATED STATES

W: AU BR CA CN ID IN JP KR MX US AT BE CH CY DE DK ES FI  
FR GB GR IE IT LU MC NL PT SE

PRIORITY INFO.: GB 1998-9812550.3 19980611

APPLICATION INFO.: WO 1999-GB1870 A 19990611



ABEN A method of combating a tumour in a patient, the method comprising administering to the patient  
a) an agent which tolerizes the patient to a said tumour selective agent or to an agent which interacts selectively with the said tumour selective agent; b) a tumour selective agent which comprises a polypeptide; and c) at least one further agent which interacts selectively with the said tumour selective agent.

ABFR Un procede permettant de combattre une tumeur chez un patient consiste a administrer au patient  
(a) un agent qui rend le patient tolerant a un agent selectif contre ladite tumeur ou a un agent qui interagit selectivement avec l'agent selectif contre ladite tumeur; (b) un agent selectif contre la tumeur qui contient un polypeptide; et (c) au moins un autre agent qui interagit selectivement avec l'agent selectif contre ladite tumeur.

DETD . . . free drugs, aryl sulphatase useful for converting sulphate-containing prodrugs into free drugs, cytosine deaminase useful for converting non-toxic 5-fluorocytosine into the anticancer drug 5-fluorouracil, proteases such as Serratia protease, thermolysin, subtilisin, carboxy-peptidases and cathepsins that are useful for converting peptide-containing prodrugs into free drugs, D-alanylcarboxypeptidases, . . .

Alternatively, catalytic macromolecules (enzyme-macromolecule complexes) can be exploited beneficially in the context of cytotoxic antimetabolite compounds for which normal metabolic components exist and which can be used to block the action of the antimetabolite . In this situation, as is described in detail in WO 93/13805, the catalytic macromolecule (ie macromolecule-enzyme conjugate) can be used to degrade a . . . enzyme conjugate and has the effect of reducing enzyme activity in the blood and normal tissues so that the subsequently co-administered antimetabolite and metabolite result in the metabolite protecting normal tissues whereas, in the tumour tissue, persisting enzyme inactivates the metabolite and thus exposes the tumour cells to the action of the antimetabolite. See WO 93/13805; in particular Figure 2 of WO 93/13805 illustrates the system in relation to CPG2 directed to the target cell. . .

Fig 8 shows the biodistribution of mPEG-A5B7-CPGS conjugate in nude mice bearing LS 174T human colon carcinoma xenografts.

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 FILE LAST UPDATED: 13 Feb 2008 (20080213/ED)

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=> s CPG

13486 CPG

413 CPGS

L16 13573 CPG

(CPG OR CPGS)

=> d his

(FILE 'HOME' ENTERED AT 07:50:59 ON 14 FEB 2008)

FILE 'CAPLUS' ENTERED AT 07:51:25 ON 14 FEB 2008

L1 4525 S ODN

L2 573913 S TARGET?

L3 1105 S L1 (L) L2

L4 1407735 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?

L5 263 S L4 AND L3

L6 148361 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?

L7 22 S L6 AND L5

L8 9 S L7 NOT PY>2003

FILE 'PCTFULL' ENTERED AT 07:59:38 ON 14 FEB 2008

L9 25 S ODN CONJUGATE

L10 772570 S CONJUGAT? OR LINK? OR COUPLE? OR ATTACH?

L11 52876 S (ANTICANCER OR ANTI-CANCER) OR CHEMOTHERA? OR ANTIMETABOLIT?

L12 8 S L11 AND L9

L13 7498 S CPG

L14 12 S CPG CONJUGATE

L15 5 S L14 AND L11

FILE 'CAPLUS' ENTERED AT 08:08:52 ON 14 FEB 2008

L16 13573 S CPG

=> s l16 (L) l2

L17 1264 L16 (L) L2

=> s 117 and prodrug  
12573 PRODRUG  
13418 PRODRUGS  
18397 PRODRUG  
(PRODRUG OR PRODRUGS)

L18 2 L17 AND PRODRUG

=> d ibib 1-2

L18 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:112724 CAPLUS  
DOCUMENT NUMBER: 144:347954  
TITLE: Tumor-specific expression of the novel cytochrome P450  
enzyme, CYP2W1  
AUTHOR(S): Karlgren, Maria; Gomez, Alvin; Stark, Katarina;  
Svaerd, Jenny; Rodriguez-Antona, Cristina; Oliw,  
Ernst; Bernal, Maria Luisa; Ramon y Cajal, Santiago;  
Johansson, Inger; Ingelman-Sundberg, Magnus  
CORPORATE SOURCE: Division of Molecular Toxicology, Institute of  
Environmental Medicine, Karolinska Institute,  
Stockholm, 171 77, Swed.  
SOURCE: Biochemical and Biophysical Research Communications  
(2006), 341(2), 451-458  
CODEN: BBRC A9; ISSN: 0006-291X  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:495379 CAPLUS  
DOCUMENT NUMBER: 131:126421  
TITLE: Promoter regions of the mouse and human telomerase RNA  
component genes and their use in targeting cancerous  
tissues  
INVENTOR(S): Keith, William Nicol  
PATENT ASSIGNEE(S): Cancer Research Campaign Technology Limited, UK  
SOURCE: PCT Int. Appl., 109 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
WO 9938964	A2	19990805	WO 1999-GB308	19990129
WO 9938964	A3	20000120		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9922912	A	19990816	AU 1999-22912	19990129
EP 1049774	A2	20001108	EP 1999-902700	19990129
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			

JP 2002509699	T	20020402	JP 2000-529424	19990129
US 7084267	B1	20060801	US 2000-601267	20000825
PRIORITY APPLN. INFO.:			GB 1998-1902	A 19980129
			WO 1999-GB308	W 19990129

=> d ibib abs kwic 1-2

L18 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:112724 CAPLUS  
DOCUMENT NUMBER: 144:347954  
TITLE: Tumor-specific expression of the novel cytochrome P450 enzyme, CYP2W1  
AUTHOR(S): Karlgren, Maria; Gomez, Alvin; Stark, Katarina; Svaerd, Jenny; Rodriguez-Antona, Cristina; Oliw, Ernst; Bernal, Maria Luisa; Ramon y Cajal, Santiago; Johansson, Inger; Ingelman-Sundberg, Magnus  
CORPORATE SOURCE: Division of Molecular Toxicology, Institute of Environmental Medicine, Karolinska Institute, Stockholm, 171 77, Swed.  
SOURCE: Biochemical and Biophysical Research Communications (2006), 341(2), 451-458  
CODEN: BBRCA9; ISSN: 0006-291X  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A novel human cytochrome P 450, CYP2W1, was cloned and expressed heterologously. No or very low CYP2W1 mRNA levels were detected in fetal and adult human tissues, expression was however seen in 54% of human tumor samples investigated, in particular colon and adrenal tumors. Western blotting also revealed high expression of CYP2W1 in some human colon tumors. In rat tissues, CYP2W1 mRNA was expressed preferentially in fetal but also in adult colon. The CYP2W1 gene was shown to encompass one functional CpG island in the exon 1-intron 1 region which was methylated in cell lines lacking CYP2W1 expression, but unmethylated in cells expressing CYP2W1. Re-expression of CYP2W1 was seen following demethylation by 5-Aza-2'-deoxycytidine. Transfection of HEK293 cells with CYP2W1 caused the formation of a properly folded enzyme, which was catalytically active with arachidonic acid as a substrate. It is concluded that CYP2W1 represents a tumor-specific P 450 isoform with potential importance as a drug target in cancer therapy.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB . . . mRNA was expressed preferentially in fetal but also in adult colon. The CYP2W1 gene was shown to encompass one functional CpG island in the exon 1-intron 1 region which was methylated in cell lines lacking CYP2W1 expression, but unmethylated in cells. . . as a substrate. It is concluded that CYP2W1 represents a tumor-specific P 450 isoform with potential importance as a drug target in cancer therapy.

IT Gene, animal  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(CYP2W1; tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

IT Drug delivery systems  
(prodrugs; tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

IT Antitumor agents  
Drug targets  
Human

# Neoplasm

(tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

IT 2353-33-5, 5-Aza-2'-deoxycytidine

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(CYP2W1 expression stimulation by; tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

IT 506-32-1, Arachidonic acid

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(substrate; tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

IT 850330-09-5, Cytochrome CYP2W1

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(tumor-specific expression of novel cytochrome P 450 enzyme CYP2W1 and potential importance as a drug target in cancer therapy using prodrugs)

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:495379 CAPLUS

DOCUMENT NUMBER: 131:126421

TITLE: Promoter regions of the mouse and human telomerase RNA component genes and their use in targeting cancerous tissues

INVENTOR(S): Keith, William Nicol

PATENT ASSIGNEE(S): Cancer Research Campaign Technology Limited, UK

SOURCE: PCT Int. Appl., 109 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9938964	A2	19990805	WO 1999-GB308	19990129
WO 9938964	A3	20000120		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9922912	A	19990816	AU 1999-22912	19990129
EP 1049774	A2	20001108	EP 1999-902700	19990129
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2002509699	T	20020402	JP 2000-529424	19990129
US 7084267	B1	20060801	US 2000-601267	20000825
PRIORITY APPLN. INFO.:			GB 1998-1902	A 19980129
			WO 1999-GB308	W 19990129

AB The present invention relates to the identification of the genomic promoter regions of the human and mouse telomerase RNA genes. Telomerase activity is necessary for the unrestricted proliferative capacity of many human cancers. It is proposed that mutation or dysregulation of the telomerase repression pathway may cause reactivation or upregulation of telomerase expression in cancer. The invention provides details of elements important for the regulation of telomerase RNA genes, including

the Sp family of transcription factors. There is further provided methods for screening for elements having the ability for suppressing telomerase RNA gene promoter activity and use of such elements in the treatment of cancers. In addition, evidence is also provided for the development of new transcription based therapies for cancer and for genetic approaches to targeting therapeutic genes to cancer cells. Namely, (1) transcriptional repression and the disruption of signal transduction pathways regulating telomerase activation; (2) tumor-specific gene expression for genetic therapy via telomerase RNA gene promoters.

ST telomerase RNA gene promoter sequence mouse human; tumor promoter expression specificity telomerase gene; prodrug tumor promoter expression specificity  
IT Genetic element  
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)  
(CpG island; promoter regions of the mouse and human telomerase RNA component genes and their use in targeting cancerous tissues)  
IT Drug delivery systems  
(prodrugs, and activating enzymes; promoter regions of the mouse and human telomerase RNA component genes and their use in targeting cancerous tissues)

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